

Predesign
Executive Office Plaza/Heritage Center

Project #2006-117
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General Administration
STATE OF WASHINGTON

SRG PARTNERSHIP INC



ACKNOWLEDGEMENTS

Department of General Administration

Linda Bremer, Director of General Administration
Peter Antolin, Deputy Director, General Administration
Craig Donald, Project Director
Penny Koal, Project Manager
Tom Evans
Ted Cohen
Michael Van Gelder
Donovan Gray
Marygrace Jennings
Doug McCudden
Gregg Strom
Carol Maher
Grant Hensel

Advisory Committees

State Capitol Committee

Brad Owen, Lieutenant Governor
Marty Brown, Governor Gregoire's Designee
Sam Reed, Secretary of State
Doug Sutherland, Commissioner of Public Lands

Capitol Campus Design Advisory Committee

Barbara Swift, Chair
Fred King
Ron Tan
Dennis Haskell
Senator Karen Fraser
Senator Steve Johnson
Representative Sam Hunt
Representative Dan Roach

Project Steering Committee

Steve Excell, Deputy Secretary of State
Mike Watson, Chief Deputy Insurance Commissioner
Tom Saelid, Office of Financial Management
Peter Antolin, Deputy Director, General Administration
Steve Hall, City of Olympia Manager

Consultants

SRG Partnership, Architects
Site Workshop Landscape Architect
Magnuson Klemencic Associates, Structural Engineers
Wood Harbinger, Mechanical /Electrical Engineers
AHBL Civil Engineers
Shannon & Wilson, Soils Engineers
Rider Hunt Levett & Bailey, Cost Estimating
Norton-Arnold Company, Public Involvement

EXECUTIVE OFFICE PLAZA/HERITAGE CENTER PREDESIGN

PREDESIGN BOOK

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1. EXECUTIVE SUMMARY

A. Reason for the Study

In the 2005 legislative session three different agencies submitted requests for new buildings to replace existing leased space and for the renovation or replacement of an existing facility. These included:

- A request for an elected officials building submitted by the Office of the Insurance Commissioner.
- A request for a heritage center submitted by the Office of the Secretary of State.
- A request for the replacement or renovation of the General Administration Building by the Department of General Administration (GA).

The Legislative Proviso (see Appendix 9.7) then directed GA to lead a study for the possible redevelopment of a two-block area of the historic Capitol Campus in Olympia. The site is between Capitol Way, 11th Avenue and Union Street on the northern edge of the campus. It is currently home to the 50-year-old General Administration Building, a parking garage and the 1063 Building (also known as the Dawley Building) on Capitol Way.

The pre-design study represents the best work of a partnership of interested parties, including community members; businesses; elected officials; local government; state agencies; facilities experts; SRG Partnership, the predesign architects; and GA staff and management.

The study meets the requirements set forth by the Legislature and also surfaces additional considerations in order to provide decision makers with the information necessary to determine the next steps.

B. Pre-Design is Foundation for Future Decisions

The study is intended to assess redevelopment options and propose architectural concepts for consideration by the Legislature and statewide elected officials.

The Legislature has specified the following components for the study:

- Executive office space for statewide elected officials.
- Public space for the state library collection and historically significant documents from the state archives and the state historical museum.
- High-density general office space to meet a variety of state needs.
- Additional parking beyond that needed to meet the requirements of the project.

GA and SRG Partnership initially developed six alternative site plans and building configurations eventually narrowed to those submitted in this predesign. These were presented to the community at three public workshops. The project team also consulted with statewide elected officials; the City of Olympia; the Capitol Campus Design Advisory Committee; the State Capitol Committee; key legislative members; and other interested parties. The six options were narrowed to the final three alternatives presented in this Predesign Report.

The team refined these initial site plans to a more limited number of alternatives based upon input from the workshops and other consultations. This report includes the three alternatives for legislative review, including one for the temporary repair alternative. This last option was not presented during the public workshops.

C. Participation

A wide variety of input was solicited and used to prepare this Predesign Report.

A Department of General Administration Project Team met weekly to discuss and develop strategies and content to the report. Team meeting minutes and other data created and discussed are on file.

A Project Steering Committee consisting of five major stakeholders (Office of Financial Management, Office of the Secretary of State, Office of the Insurance Commissioner, the City of Olympia, and General Administration) met bi-weekly to provide policy level decision making and direction to the project staff. They also provided guidance regarding project scope and tenancy.

The Capitol Campus Design Advisory Committee received presentations throughout this process from SRG Partnership and GA staff during their normally scheduled meetings and they also made themselves available for special sessions during development of site design. They provided guidance regarding the scope of work, policy interpretations, and planning.

The State Capitol Committee received presentations throughout this process and provided guidance regarding the development of the scope of work, policy, and planning decisions. They will act on the Predesign Report before it is forwarded to the Office of Financial Management and the Legislature for approval and funding.

There were three Public Workshops where the alternative design concepts were shared with citizens. Citizens had the ability to raise concerns and questions which is detailed in Appendix 9.4.

D. Proposed Alternatives

1. The preferred alternative calls for demolishing the General Administration Building. In its place would be a Heritage Center Building, for display of the state's historic records, publications, and artifacts, built into the hillside that slopes down to Capitol Lake. A building to house statewide elected officials would be constructed adjacent to the Heritage Center. The general office building would be built on the neighboring block to the east. A 503-vehicle underground parking garage would be built to the north of the Heritage Center and elected officials building. A new conservatory located in the Heritage Center would replace the existing campus conservatory.
2. A second alternative is to complete a substantial renovation of the General Administration Building and construction of the Heritage Center on the block that borders Capitol Way. The General Administration Building renovation would include seismic upgrades, so it could better withstand a major earthquake. This alternative would require demolition of the existing building and parking garage to make way for the Heritage Center. A 503-vehicle underground parking garage would be built to the north of the renovated General Administration Building. Continuing needs for leased space would have to be considered.
3. The third alternative would make temporary repairs to the General Administration Building and the 1063 Building. Repair work in the General Administration Building

would include the addition of a fire-suppression system, upgrading the plumbing and electrical systems and would require a temporary relocation of some building tenants.

E. Issues Awaiting Resolution

Several issues arose during the predesign process that still need resolution:

Construction on the Hillside

Community members and others expressed concern in three areas: costs, hillside stability, and ecosystem implications. Questions have been raised about the effects of construction on a hillside that in recent years has had work done to improve its stability. Although preliminary examinations by architects and engineers show that a building constructed into the hillside down to the bedrock would increase its stability, additional environmental studies are required. A preliminary Geotechnical Study was undertaken. The report is included in section 9.7.21 of the appendix to this report. A full SEPA (Shoreline Environmental Protection Act) report will be required during the early phases of the design. Additional study would also include cost comparisons and the potential effects the buildings would have on Capitol Lake, Heritage Park and the surrounding areas.

Possible Closure of Columbia Street

The preferred alternative would close Columbia Street. Some residents of the South Capitol Neighborhood, as well as local government officials, have asked that access for emergency vehicles be carefully considered in any design proposal. A study is currently under way to determine how traffic flow would affect:

- Full closure of Columbia Street.
- Limited access to Columbia Street for emergency purposes.

Tenants for General Office Building

The design concept for the General Office Building accommodates many different agencies over a long period of time. The initial assumptions would co-locate current tenants of the General Administration Building in the new office building.

As the predesign progressed, a recommendation surfaced to dedicate this project to a critical state priority, education. The Capitol Campus Design Advisory Committee endorsed this recommendation. More time is needed to thoroughly examine this option. The costs reflected in this report are general estimates for the original agencies.

Parking

The Legislature asked that sufficient parking spaces replace and add to those lost in any project. The predesign project adds 119 parking stalls – to 503 from the current level of 384.

Historic Preservation

Interest surfaced about historic preservation considerations for the General Administration Building and the Conservatory. A design of the overall project would include a Historic American Building Survey. This report would identify historic features that would need to be preserved or re-used. The extent of such a study is unknown at this time, but would likely include the mosaic in the lobby of the General Administration Building, the state seal at the building's front entrance, the Art Deco mail drops, and the jadeite drinking fountains. A separate engineering study will evaluate the condition of the Conservatory.

F. Summary of Next Steps

GA is submitting this predesign study to the Governor's Office, the Legislature and other state elected officials for their review. These bodies will review it and determine the next actions in the process. These steps would include:

- Formal design process (estimated to require approximately 12 months prior to project bid and construction).
- Approval of design and authorization of construction by elected officials.
- Phased construction (estimated to require 72 months).
- Space planning and management for affected tenants during construction.

Website Information

More details are available at: www.ga.wa.gov/eop/

2. PROJECT ANALYSIS

Project Description and Scope

A. Background

The 2005 Legislature combined capital project and space requests from the Office of the Insurance Commissioner, the Secretary of State, and the Department of General Administration to create the Executive Office Plaza/Heritage Center, also known as the North Capitol Campus Executive Office Building(s).

The three major components of the predesign project are an Office Building suitable for Statewide Elected Officials, a Heritage Center encompassing the State Library, State Archives and the State Capitol Museum, and a General Office building with high density, flexible state office space. The Legislature also directed the project to study retail space along Capitol Way and provide enhanced parking capacity.

This project will affect the sites occupied by the General Administration Building, the 1063 Building (Dawley Building), and the General Administration Garage. The preferred alternative developed in the predesign also anticipates moving the Conservatory to the Heritage Center area. These sites are located on the northern edge of Capitol Campus between 11th and Union, and Capitol Way to the back of the existing General Administration Building.

Agency Name:	General Administration
Agency Code:	150
Project Number:	To be assigned as individual projects are identified
Project Title:	Executive Office Plaza/Heritage Center
Agency Contact:	Craig Donald PO Box 401011 Olympia, WA 98504-1011 360-902-7344

B. Project Mission & Strategic Plan

- Improve public access to historic government materials and essential services
- Reduce the quantity of leased space
- Collocate and consolidate scattered offices
- Improve customer satisfaction and commitment to government services
- Follow LEED® principles in design and construction
- Provide effective design leadership in the context of the historic Capitol Campus
- Work with the surrounding community

C. Project Scope

This predesign project reflects the merger of three separate 2005-07 Capital Budget requests into one overall study. The three separate requests were:

- Executive Office Building – a 120,000 square-foot-building to be built on the West Campus, along with a 300-vehicle underground parking garage. This building was to

- house elected officials and their staffs who were displaced by the Legislative Building Rehabilitation Project. A project report had been prepared in 2003 for this work.
- Pre-Design of Combined State Library and Archives Building – a request for a predesign study in anticipation of a 270,000-square-foot building. A site under consideration was the 1063 Building. This request was intended to re-establish an on-campus presence for the State Library and include an expansion of the State Archives and provide space for the State Capitol Museum.
 - GA Building Rehabilitation – a request to update the 1992 Predesign for the General Administration Building in anticipation of a request to renovate, remodel or rehabilitate this 284,000-square-foot building.

The Legislature merged these three requests into one predesign study in the 2006 Supplemental Capital Budget:

North Capital Campus Executive Office Building(s) (06-1-002)

The appropriation in this section is subject to the following conditions and limitations: Funding is provided solely for predesign for replacement or renovation of the general administration building combined with the development of an office building on the block adjoining Capital Way and 11th avenue. The combined development is intended to provide: (1) Executive office space for statewide elected officials; (2) public access space for the state library collection and historically significant documents from the state archives and the state historical museum; and (3) high density general office space that can adapt to changing state needs. The project will maximize interagency sharing of support services such as information technology, printing and mailing, management and storage of supplies, reception areas, and other common functions. The project will also include sufficient parking to provide a significant net increase in parking spaces beyond what is required for the new office space. The project shall also include leasable ground floor retail space on Capital Way.

The department shall consult with statewide elected officials and the city of Olympia in developing the predesign. Due to the intended replacement of the building adjoining Capital Way and 11th Avenue, the department shall not charge the facility depreciation component of lease charges for nonprofit tenants in that facility during the 2005-2007 biennium.

The preferred alternative for this project is to replace the General Administration Building, the 1063 Building (Dawley Building), the General Administration Garage, and the Conservatory. These sites are on the northern edge of the Capitol Campus between 11th Street and Union Avenue, and Capitol Way to the back of the existing General Administration Building.

The 1063 Building and the General Administration Parking Garage will be replaced with a 243,499 gross square foot general office building to house multiple agencies. The building will be flexible and adaptable as needs change both in terms of office layout and mechanical, electrical and data systems. Ground floor retail space at the corner of Union Avenue and Capitol Way would increase the vitality of the area and accentuate the gateway between the city and the campus.

A 120,214 gross square foot executive office building for statewide elected officials would be constructed on the site of the existing General Administration Building. This building is on a

symmetrical axis with the Insurance Building and would reflect the demeanor of the original campus buildings.

The Heritage Center, 225,921 gross square feet, will exhibit and display Washington State history and culture and be underground directly adjacent to the executive office building cascading down the hillside. The State Library, State Archives and a museum would co-locate in this building. The conservatory, a shared conference center and a small snack bar would also be in the Heritage Center. A glassy pavilion in the center of the Heritage Plaza would provide a beacon to attract people to the Heritage Center.

There are two plazas and a green area that would draw people into the campus and create gathering spaces. A drop off for mass transit, buses and visitors is positioned in front of the Heritage Center Pavilion. Parking for 503 cars and service delivery for the entire project would be underground to encourage and enhance a pedestrian experience.

These buildings are intended to be significant buildings with a life span of over 100 years, similar to the historic capitol group. Although the total complex encompasses over 500,000 gross square feet, the size and scale of the buildings are in keeping with existing structures. None exceed the height of the Insurance Building or Temple of Justice. Their appearance would reflect the character and stateliness of the adjacent west campus buildings, using the same organizing philosophy and Wilkinson sandstone employed on the monumental capitol group. A few new materials would be expressed in these buildings to make them reflective of “our time,” not simply imitations of existing buildings. The plazas are a studied contrast to the formality of the Olmsted lawns while respecting the Olmsted layout. These features would serve to unify the west campus.

These buildings would be energy efficient and healthy for visitors and workers. Products chosen for these structures will be sustainable, reusable, durable and good for the environment. We will achieve a LEED® silver certification and we are optimistic we can possibly achieve LEED® gold.

The project is proposed to be phased with design and construction overlapping in some areas. With funding in the 2007-09 biennial capital budget, design would commence in the summer of 2007 with final construction complete in the fourth quarter of 2013. For the 2007-2009 biennium, we are requesting authorization for design and construction for that portion of the general office building on Capitol Way, the Heritage Center and schematic design for the remainder of the project.

GA is engaged in a continuous consultation process with the Office of Financial Management, legislative fiscal committees, elected officials, the City of Olympia and a wide range of other interested parties.

D. Agency Need, Mission, Goals & Selection Criteria

In discussing possible tenancy for these buildings, the project team looked at the legislative budget proviso language, the 2006 Master Plan policy 2.3 requirements and criteria, and impacts for current tenants of the General Administration Building. We looked at agencies that are or would be willing to share certain functional spaces, such as conference rooms, technology centers, and printing facilities, in order to increase the efficiency of the overall building. We assessed parking needs for visitors and employees alike.

General Office Building:

The project made initial assumptions to have several agencies housed in this project. All have varying needs and desires for this location. We have assessed their needs against the 2006 Capitol Campus Master Plan. Per RCW 43.82.10(5) “The State shall encourage the co-location and consolidation of state services into a single or adjacent facilities, wherever appropriate, to improve public service delivery, minimize the duplication of facilities, increase efficiency of operations and to promote sound growth management planning.”

We determined that agencies that met certain Master Plan criteria should have priority for possible tenancy in the General Office Building. Tier 2 criteria involve functions critical to the effective operation of legislative (Tier 1) activities. Tier 3 represents State agency headquarters, executive office and state activities that directly support tiers 1 and 2.

The predesign process also developed another option under consideration for tenancy that would create a place on campus for state education agencies. The initial review concurs that these agencies would fit well in the proposed general office building, although more detailed analysis is required. GA has not yet held formal discussions with the potential agencies.

The following agencies are candidates for tenancy in the new General Office Building based on initial assumptions. During the programming effort we asked “How would this project support the agency’s missions, goals and objectives?”

Agency * = Current GA Building Tenant	Mission	Criteria
African-American Affairs * Asian-Pacific American Affairs * Indian Affairs * Hispanic Affairs * (Co-located to share resources.)	To improve conditions affecting the general well being of each agency’s affected citizens at all levels throughout Washington State.	To be effective these agencies need direct access to the governor and to policy and law makers. At various times each of these agencies has been off-campus at a detrimental effect to their mission.
Arts Commission	To cultivate a thriving environment for creative expression and appreciation of the arts for the benefit of all	Would be a good complement in the Heritage Center. The Arts Commission works with Public Art, the Heritage Center is dedicated to Public participation in our Heritage.
Citizens Commission for Salaries of Elected Officials *	To attract citizens of the highest quality to public service by basing the salaries of the state's elected officials on realistic standards and paying them according to the duties of their office.	They have constitutional authority to set salary schedules. As a decision-making commission, they need to operate in an openly public manner and in a visible location.

Commission on Judicial Conduct *	The Commission makes every effort to act in the public interest while safeguarding individual rights and the reputations of judges from unfounded accusations.	The Commission works to protect the integrity of the judicial process and promote public confidence in the courts. They also serve to improve and strengthen the judiciary by creating in judges a greater awareness of proper judicial behavior.
Conservation Commission	To lead the citizens of the state in the wise stewardship, conservation, and protection of soil, water, and related natural resources on private lands. The Conservation Commission does this by providing structure and leadership for good governance by conservation districts who provide education, technical assistance, and implementation of land management practices.	As a policy commission this agency needs to be able to work closely with lawmakers. They have established partnerships at local, state, federal and tribal levels.
Dept. of Archeology & Historic Preservation	Our historic and cultural resources provide everyone with a tangible link to persons and events that have shaped our communities and ourselves. Preserving these physical reminders of our past creates a sense of place, the result being an environment that instills civic pride and community spirit.	Works with State, Local and Federal agencies. Would prefer to be located in an older or historically significant building.
General Administration *	We are a high-performing central services agency delivering excellence in strengthening government's ability to achieve results efficiently and effectively. We work together to help our customers succeed.	Provides critical support services for state government, including stewardship, maintenance, and operations of Capitol Campus buildings and grounds.
Office of Financial Management *	To provide vital information, fiscal services and policy support needed by the Governor, Legislature, and State Agencies to serve the	This agency works closely with the Executive Branch and the Legislature. Access to the Governor and the

	people of Washington State.	Legislature is critical to their mission.
Puget Sound Action Team *	The Puget Sound Action Team Partnership defines, coordinates and implements Washington State's environmental agenda for Puget Sound.	This agency develops and recommends policy as it relates directly to the Puget Sound Basin. Being close to lawmakers enhances their ability to fulfill their goals.
Washington State Patrol *	The Washington State Patrol makes a difference every day, enhancing the safety and security of our state by providing the best in public safety services.	Security and safety are important campus objectives. The presence of the State Patrol on Campus has always provided this assurance.

Executive Office Building:

The 2006 Capitol Campus Master Plan notes that, “citizens expect to find the appropriate state agency or elected official quickly and easily when they need to. They intuitively assume that the highest-ranking officials and elected leaders will be located at the center of state government – the Legislative building...”

After the 2001 Nisqually earthquake and the rehabilitation of the Legislative Building, several statewide elected officials were relocated temporarily from the center of government, the Legislative Building. Under the preferred alternative, the Insurance Commissioner and staff, the Treasurer's staff, all currently in leased space, would be located in the Executive Office Building. The Insurance Commissioner, per the master plan, would be considered a Tier 1 tenant and should be as close to the Legislative Building as possible.

The architects have suggested bringing the portion of the Office of Financial Management currently located in the Insurance Building, to the new Executive Office Building in order to locate the Insurance Commissioner and as much of his staff as possible in the existing Insurance Building. This suggestion is also under advisement.

Heritage Center Building:

Policy 1.3 of the Capitol Campus Master Plan speaks to the need to educate the public about our Heritage:

“The State Capitol, then, presents a very rich environment for educating both adults and children, from our own state and from afar, about our democratic ideals, the process of democratic governance, and our State's history, heritage, and cultures.”

This is the overriding mission of the Heritage Center. Other than the Legislative Building, there is no central place on campus to tell the story of Washington State. By law the State Library (which includes the original territorial library) must be located on the Capitol Campus. The State Archives contain the original signed constitution of the State of Washington and thousands of other historic documents. The Washington State Capitol Museum has many historical artifacts that are stored away from the public. Under the preferred alternative, persons doing research would find, for the first time, archive and library materials at the same location.

E. Alternative Housing

Some agencies currently in the General Administration Building may find themselves relocated as a result of this project, either temporarily or permanently. Attempts have been made to adjust construction phasing so that moving costs are kept at a minimum. There have been recent lease development additions to the Thurston County marketplace. These additions have resulted in the vacancy of existing inventory. General Administration has been informed that much of that existing inventory of leasable space in the Olympia area is slated for upgrade and renewal on a schedule that will make an adequate supply of space available at the same time the construction program gets underway. This will ensure that disruptions to state business are kept low. Those agencies requiring new permanent homes will be housed in an appropriate and timely manner. The cost impact of temporary and alternative housing is discussed at the end of this section.

F. Operating Cost and Inflation

Staffing

The proposed project management staff structure for design and construction along with the 2008 salaries and benefits are as follows:

Title	FTE	2008 Salaries & Benefits
Project Director	1.00	\$96,934
E&AS Project Manager	1.00	\$82,278
Asst Project Manager	0.75	\$56,712
Site Rep	0.50	\$29,147
Asset Manager	0.50	\$47,135
Financial Manager	1.00	\$80,945
Admin Assistant	1.00	\$46,303
Public Relations	<u>0.50</u>	<u>\$26,482</u>
Subtotal Staff Costs	6.25	\$465,937

The staff to operate and maintain the preferred-option buildings once they open is as follows:

Staff Costs	Salaries & Benefits (2010)
Building Manager	\$77,797
Electrician	\$60,421
Carpenter	\$55,671
HVAC Technician	\$62,990
Asset Manager	\$64,363
Custodian 2	\$39,859
Mainten Mech 2	\$56,102
Grnds & Nursery	
Services Specialist 3	\$43,831

Custodial staff provided by OS1 program staffing (2010 cost estimate \$715,384)

Security staff provided by Washington State Patrol on contract based on project square feet is \$305,538.

Assumptions

The dilemma surrounding assumptions is that they are by their nature uncertain, yet vitally important to the projected outcome. It is projected outcomes upon which decisions are made. Poor assumptions could result in poor decisions.

Costs

In developing cost forecasts - whether operating costs or construction costs - an option is to use assumptions to structure and build the cash cost and life-cycle cost models. Costs assumptions are typically developed using a unit-cost basis and are typically based on recent or current experience. Among the cost assumptions and sources are:

- New 5-year leases in 2010 = \$23 per square foot (unserviced) based on recent Real Estate Services experience.
- Short-term or temporary leases = \$25 per square foot (unserviced) based on estimates of Real Estate Services solicitations.
- Staff salaries = 2005 salaries for median staff in same salary category using 2005 OFM Personnel Report inflated by 1.6% for 2006 and then 2.1% for the remainder of the planning period.
- Additional tenant improvements = \$45 per square foot based on recent experience in Real Estate Services.

Operating Costs

Individual operating cost startup rates (2007 base) are based on recent experience with our GA costs (rates charged by our providers) and the units used at the recently completed Edna Goodrich Building in Tumwater. The following are the 2007 (per Gross Square Foot per Year) base rates used in this predesign:

Estimated 2007 Operating Costs Given Historic Data and Facilities Staffing Plan (per GSF per Year)				
Service	New & Renovated Office Buildings	Existing Office Buildings	Garages	Plazas
Utilities	\$1.50	\$1.71	\$0.43	\$0.03
Custodial	\$1.40	\$1.80	\$0.10	\$0.40
Maintenance	\$1.60	\$2.90	\$0.25	\$0.08
Security	\$0.60	\$0.60	\$0.30	\$0.10
Insurance	\$0.55	\$0.00	\$0.18	\$0.10
Capital Repl. Res.	\$2.00	\$2.00	\$0.65	\$0.35
Management Fees	\$0.70	\$0.70	\$0.02	\$0.01
Total	\$8.35	\$9.71	\$1.93	\$1.07
For Existing Capitol Campus Buildings, Capital Repl. Res is estimate of future capital portion of Capital Project Surcharge				

Inflation

Inflation assumptions for the most part have a definite relationship to one another since they often build on each other. Some recent trends (e.g., state salary increases have not kept pace with inflation) have not shown a high degree of correlation, but if one looks over a longer term there can be fairly close correlations and trends. Regardless, if the same cost and inflation assumptions are applied consistently in a life-cycle modeling effort, the degree of error among alternatives should be relatively low. Another aspect of these assumptions is that multiple independent staff recommended sources and applications of assumptions. This means that it was unlikely that assumptions are arbitrary or were manipulated to achieve a predetermined answer.

Medical

This is one of the more volatile cost factors in recent history ranging from 0.5% to 12% annual increases during the previous 10-year period. Looking at the last 10 years, the overall rate of inflation was about 7%, for a difference of 3.5 times the overall rate of inflation. It is unlikely that a 7% level of inflation for that service can be sustained over a 50-year period (our planning horizon). The mean average inflation for the previous 13 years was used – 5.7%.

Fuels

The other volatile cost factor is fuel (and the resulting fuel based utilities costs). During the past 10 years cost changes have ranged from minus 9.9% to plus 37.6%. The mean average increase has been 9.7% over the past 10 years. Similarly to inflation on health insurance, these types of cost increases cannot be sustained over an entire 50-year planning horizon. Given that the study recommends using the 10-year median of about 7% inflation for 10 more years, then dropping the inflation on this item and the related utilities items to 3%.

Salaries

It is estimated that salaries will increase in line with the Implicit Price Deflator, which has averaged 2.1% during the previous 14-years.

Lease Rate Increases

In the Thurston County market renewing lease rates on existing state-leased properties has averaged about 15% every five years; likewise a typical escalator used by the major lessors for the second five years of a 10-year lease is 15%. Therefore, for leases and lease-related costs (those operating costs typically included in the base rent) a rate of 15% every five years (and 3% for annual increments) was used.

Inflation History & Averages Used to Calculate Inflation Assumptions

Inflation History & Averages

Year	State and local Government Annual Increase in Cost of Health Benefit Per Hour ¹	State and local Government Annual Increase in Cost of Non- Health Benefits Per Hour ²	Fuels ³	Services ⁴	Price Deflator ⁵	Construction Inflation ⁶
1987						2.6%
1988						2.6%
1989						2.1%
1990						2.6%
1991						2.5%
1992						2.8%
1993			-0.3%	3.3%	2.3%	5.2%
1994	6.7%	2.5%	-1.6%	2.9%	2.1%	3.0%
1995	-5.3%	-0.7%	-0.7%	3.0%	2.1%	1.4%
1996	1.5%	3.2%	11.3%	2.9%	2.2%	2.4%
1997	0.5%	3.3%	1.0%	2.7%	1.7%	4.4%
1998	3.0%	1.2%	-8.7%	2.2%	0.9%	1.0%
1999	3.4%	0.8%	1.2%	2.2%	1.7%	2.6%
2000	7.1%	1.8%	37.6%	2.7%	2.5%	2.5%
2001	7.9%	1.1%	1.7%	3.3%	2.1%	2.9%
2002	9.8%	2.9%	-9.9%	2.7%	1.4%	3.1%
2003	11.2%	5.0%	19.6%	3.0%	1.9%	1.4%
2004	12.0%	5.8%	14.7%	3.2%	2.6%	6.4%
2005	8.4%	6.1%	28.2%	3.1%	2.8%	4.2%
2006	7.7%	5.8%	12.0%	3.2%	2.6%	4.0%
Mean Average	5.7%	3.0%	7.6%	2.9%	2.1%	3.0%
Median	7.1%	2.9%	1.5%	3.0%	2.1%	2.6%
10-year Mean	7.1%	3.4%	9.7%	2.8%	2.0%	3.2%
10-Year Median	7.8%	3.1%	6.9%	2.9%	2.0%	3.0%
Use	5.7%	3.2%	7% ⁷	2.9%	2.1%	4.0%

1- U.S. Department of Labor - Bureau of Labor Statistics

2- U.S. Department of Labor - Bureau of Labor Statistics

3 - Chain-Weighted Price Indices - June 2006 Economic Forecast - WA State Forecast Council

4 - Chain-Weighted Price Indices - June 2006 Economic Forecast - WA State Forecast Council

5 - Selected Inflation Indicators - June 2006 Economic Forecast - WA State Forecast Council

6 - Engineering News Record - Construction Cost Index - July 2006

7 - Use 7% for 10 years then drop to 3% since sustaining those increases over an extended period unlikely.

Specific Inflation Assumptions Utilized in Life Cycle C3's

Inflation Assumptions	Annual Inflation Rate (%)
Utilities	3.80%
Custodial	3.23%
Maintenance	3.02%
Security	2.90%
Property Taxes	0.00%
Insurance	2.90%
Parking Costs	2.90%
Tenant Improvement Reserve/Payments	4.00%
Capital Replacement Reserve	4.00%
Management Fees	2.99%
Added operational staff cost (not included in categories above)	2.90%
Operational savings from Alternative (can be 0.00%)	0.00%
Building Value	4.00%

G. Proposed Alternative Solutions

Alternative A – Preferred Alternative

This alternative focuses on housing the program in response to Legislative language in three new facilities plus an underground parking garage on the two block site also defined in the Legislative language. The proposed buildings are:

A new 243,499 gross square foot high performance general office building to be built in two phases. The first phase is an L-shaped 155,499 square foot building at the southwest corner of Union Avenue and Capitol Way. This new construction will necessitate the demolition of the 1063 Building and the GA Garage. The second phase will entail an 88,000 square foot building across Columbia at the site of the current General Administration Building. Phased construction is recommended so that the majority of the staff currently in the General Administration Building will be able to move into the first phase newly constructed building when it is completed, and before the General Administration Building is demolished, rather than moving into costly leased space. The new building will be a four story structure. The exterior of the lower three stories will use Wilkinson sandstone, the same 10-foot grid structure and similar glass and window treatments as the other historic buildings on the West Campus. The fourth floor will be stepped back and will not be as visible from the north as is the fourth floor of the current General Administration Building. The proposed fourth floor will present a more unique glass treatment. In order to bring daylighting into the interior spaces an atrium will be constructed through the center of the building. That atrium will act as a walkway across Columbia between the two parts (the 155,499 square foot first phase and the 88,000 square foot second phase) of the building.

The second building will be a new five-story 225,921 square foot Heritage Center. The building will be built into the hillside to the west of the current General Administration Building. The building will terrace down the hillside at much the same slope as the current hillside. The exterior treatment will be glass and Wilkinson sandstone. But the glass will be stepped back from the face of the building in such a way as to minimize glass visibility from the north. The exterior

Wilkinson sandstone walls will have backing planter boxes in which green foliage will be planted. The green will spill over the planter boxes onto the face thus balancing the look of the grey sandstone with green foliage creating a transition to the campus' Wilkinson stone buildings. The Heritage Building will provide universal access between the upper West Capitol Campus and Heritage Park. The most predominate access point into the Heritage Center, on the West Capitol Campus, will be via a glassed entry pavilion to the east of the Executive Office Building. This glassed entry will go into a universally accessible entry concourse that leads directly to the Heritage Center.

The third building will be a new 120,555 four-story Executive Office Building that is being built to house statewide elected officials and related staff. The exterior materials and design will be the same as the general office building being built to the east. The Executive Office Building will be on the same axis as the Insurance Building. The site is roughly what is currently the parking strip and grassy area to the west of the current General Administration Building. The building's shape will be similar to the shape of the Insurance Building.

The project includes the construction of a three-story 188,856 square foot (503 vehicle) underground concrete and steel parking structure. This facility will also provide access for vehicles that will access the other buildings for deliveries. There will be access from the parking structure to the adjacent building in Alternative A. Access from the garage in Alternative B will be limited to the Renovated General Administration Building and will not be provided to the Heritage Center.

Alternative B - Renovate GA + Heritage Center

This alternative proposes a complete renovation of the current General Administration Building. The building will be vacated and all interior systems and finishes will be demolished and rebuilt. The building's exterior will be retained with the exception of glazing. Included in this option but not included in the limited repair option, is a seismic upgrade to the facility. The seismic upgrade will require extensive interior bracing. The interior bracing and the interior demolition will result in a significantly changed looking interior. This alternative does not improve interior daylighting and will not result in improved worker access to exterior light. The primary tenants in this renovated building will be statewide elected officials then as space is available the tenants of the current General Administration Building. Some of the program that can be housed in the preferred alternative will need to either continue leasing space or will need to move from currently occupied state owned space into leased space.

The second building proposed under this alternative is the L-shaped 155,499 square foot building at the southwest corner of Union Avenue and Capitol Way. This will necessitate the demolition of the 1063 Building and the GA Garage. The L-shaped building will house three programmatic aspects of the Heritage Center – the State Library, the State Archives and space for museum functions. The conservatory will be retained so that programmatic need will not be required to be housed in the Heritage Center (under Alternative B). Given the square foot limitations of the L-shaped building the conference center functions will not be accommodated. The other 88,000 square feet of building will not be constructed because the General Administration Building is retained.

The project includes the construction of a three-story 188,856 square foot (503 vehicle) underground concrete and steel parking structure. This facility will also provide delivery access and access for vehicles for the GA building only in this option. Access from the garage in Alternative B will be limited to the Renovated General Administration Building and will not be provided to the Heritage Center.

Alternative C: Limited Repair Alternative

This alternative focuses on making limited repairs to the General Administration Building (GA Building) to maintain it for approximately five more years without major renovations.

Background

The GA Building was planned and constructed in the early 1950s as a state-of-the-art office building and completed in 1956.. Subsequently, there have been frequent, minor renovations to the facility.

Building Obsolescence

Unfortunately, the building has not aged well over the past 56 years. The limited remodeling that has occurred has focused primarily on cosmetic improvements such as new carpeting, new paint, and minor renovations. Major mechanical and electrical systems have never been replaced. There is asbestos in floor tiles installed in many of the hallways and is found in much of the mechanical and plumbing pipe insulation.

Information systems infrastructure is constrained. Computer rooms are not well ventilated. Computer cables, phone and electrical wiring are routed through ever-shrinking floor and ceiling spaces. Due to occupancy changes over the years, so much wire and cable has been strung under the floors in some parts of the building that it is difficult to install additional workstations.

Air quality is a concern. Paper copiers and printers emit fumes which current HVAC building systems cannot deal with efficiently. Parts of the fourth floor still have odors from Department of Agriculture autoclave labs that were there in the distant past. The cafeteria on the ground floor is not well ventilated, and cooking odors frequently permeate the hallways and stairwells throughout the building.

Current Maintenance

Currently, the building requires many hours of “patch-and-fix” maintenance each year. Work requests are primarily tenant-driven complaints of failing HVAC systems, bad lighting, inoperative water fountains, and failures of items that have outlived their normal usefulness. Maintenance staff often can only provide temporary repairs if they are able to fix items at all.

The following are work orders completed in the GA Building in 2005/2006:

- There were 177 calls for air conditioning problems.
- 80 calls for lamp/ballast repairs.
- 24 calls for door hardware issues.
- 56 calls for elevator repairs – many of these were major problems due to the age of the equipment. Some incidents involved persons temporarily trapped in elevators.
- 60 calls for mechanical work
- 34 calls for plumbing – many of these included the need for replacement of fixtures
- 5 calls for general power problems
- And 247 calls were for miscellaneous “patch and fix” items

A total of 683 maintenance calls in a single year.

Conclusion

The building is rapidly reaching the end of its useful occupancy life. Major renovations would be needed to extend the life of the building beyond the near term and to reduce the service calls necessary to keep the building occupied. The current outdated systems will continue to put a strain on financial and staffing resources, requiring major amounts of time and money just to attempt repairs. More importantly, they will continue to adversely affect employee work efficiency and morale, with a greater cost than what is necessary to just “patch and fix.”

Proposed Repairs

In order to extend the life of the GA Building the following major repairs are necessary:

(1) Building Shell

The existing windows are single-glazed operable awning type. The windows have no weather stripping and leak air significantly. In addition, the aluminum frames transmit large amounts of unwanted energy into the building on hot summer days and allow heat to escape on cold winter days making for a very energy inefficient building.

A new window system should be installed. This work would consist of removing the existing windows and frames and installing new low-e glass. Because the GA Building is considered an historic structure, attention would be required to install appropriate window systems.

(2) Lighting

There have been some upgrades in the lighting fixtures and lamps in the building. However, many of the areas still have old lighting fixtures, magnetic ballasts and t-12 lamps. These areas are also over-lit with 70 foot-candles instead of 30- to 35-foot candles for general lighting.

New lighting would positively affect energy use and heating/cooling concerns. New T-5 fixtures that reflect light off the ceiling and direct it downward would reduce lighting energy costs by over 50%. Changing fixtures would greatly reduce cooling loads. Adding daylight zones and sensors along perimeter window areas could save additional money. Adding occupancy sensors would also reduce costs by turning off lights when the area is not occupied. In addition, lighting should be rewired into manageable zones with switches readily accessible and in convenient locations.

Exit signs that are illuminated with incandescent lamp should be replaced with LED-lamped fixtures. Wall sconces and other decorative lighting should be added.

(3) HVAC Systems

The Heating Ventilating and Air Conditioning system would be renovated.

(i) HVAC - Cooling

This should include adding capacity to the cooling system so that all occupied spaces are comfortable in hot weather. Further enhancements should include additional zoning. Training rooms and conference rooms are often too hot or too cool because they are set to deliver a fixed volume of conditioned air whether occupied or not. Zoning these rooms so that the amount of conditioned air is modified depending on the occupancy load is economically achievable.

If new window glazing and lighting were done as part of the project then the reduced cooling and heating loads would lessen the need for upsizing the cooling capacity and air distribution system.

(ii) HVAC - Heating

Perimeter zones will require heating. Heat will be added to these zones. The existing radiators will be removed. This will result in additional space and added flexibility.

(4) Energy Management System

The addition of an energy management system to control the HVAC zones and the lighting would increase comfort, save energy and maintenance costs. When a complaint is received, the system manager could consult the system monitor, and could correct the problem at the management computer. This provides immediate response and saves technician response and repair time.

(5) Plumbing

The existing plumbing is beyond the end of its useful life and requires major maintenance attention. A new distribution system must be installed.

Currently, there are a few water-saving fixtures in GA. There are a couple of demonstration waterless urinals and some infrared faucets in the restrooms located on the second floor and the ground floor. Most urinals should be replaced with waterless urinals.

(6) Life Safety – Fire Suppression or Sprinkler System.

The City of Olympia's Building Official has reluctantly granted building permits for tenant improvements within the building with the commitment that the state will add a sprinkler system when the building is renovated. The city may cease this practice if a modern system is not installed soon.

(7) Server Rooms and Voice / Data.

The Systems File Server Rooms need immediate attention for adequate cooling. An efficient cool air distribution system should be installed. This may include adding additional space to the server room by taking space from adjacent areas. A raised floor and ramp should be installed to facilitate cool air being "fed" to server and equipment racks through the floor utilizing downdraft data center air conditioners.

To improve the "data pathways," all old abandoned data cable and old phone wiring should be removed.

(8) Elevators

The existing elevators routinely require major repairs and trap staff between floors. They should all be replaced.

(9) Accessibility

Replace non-conforming door hardware (round door knobs) with lever hardware. Implement other accessible wayfinding improvements

(10) Food Service HVAC

Provide appropriate hoods and exhaust so that this area is under a slight negative pressure. This will prevent cooking odors from traveling up the stairwells.

- (11) Interiors
The interiors of GA are worn and dated. Minor upgrades include new flooring, wall finishes and ceiling. Accent walls and other interest upgrades would lessen the monotony of the huge space.
- (12) Cost of Repairs
Cost for repairs at this stage will be calculated on a building square foot basis using the *S Means Square Foot System Cost Estimates* when applicable.

GA Garage

A recent report states that over the years water leaks have weakened the pre-cast structural decking panels on the upper level (Visitor Parking). A recently completed report recommends lowering the weight limit on the upper deck of vehicles from 5,000 pounds down to 4,000. That means that no full size trucks, vans or SUVs will be allowed to park on the upper level of the GA Parking Garage. Additionally the water has cause rust in the reinforcing causing concrete cracking and spalling. The entire report and structural analysis is included in appendix section 9.7.38.

H. Proposed Alternative Financing Strategies

The state of Washington typically finances new capital projects via the issuance of debt, through the sale of bonds or notes. Two prominent forms of bond debt are:

- General Obligation Bonds (where bond repayments become a general obligation to be repaid from generally available resources).
- Revenue bonds (where a designated source of revenue is pledged to repay the bonds).

In addition, under Chapter 39.94 RCW, the state has used financing contracts to convert payments from appropriated funds into capital leases (where at the end of the lease period the asset is owned by the state). The most common form of 39.94 RCW financing contract used by the state has been Certificates of Participation (COP). The Secretary of State is also investigating other options for the Heritage Center, such as fundraising and fee increases. A less frequently used form of financing contract is the conversion of lease payments via issuance of IRS rule 63-20 bonds by a nonprofit entity.

The predesign team sought the costs and interest rates for each of these forms of financing from the State Treasurer:

	Average Interest Rate	Financing Costs per \$1,000 Financed	Number of Years to Finance
GO Bonds	4.59%	\$6.02	25
COP (Certificate of Participation)	4.74%	\$11.43	25
63-20 Alternative Financing	4.98%	\$33.63	25

Suggested Financing Strategies

Given the latest OFM estimates of authority available and other competing demands, it is unlikely that General Obligation Bond authority will be available to fully finance this project.

Consequently, the least-cost option that has the greatest revenue base of support is Certificate of Participation financing. The 63-20 alternative (and the Lease Development alternative that was not analyzed) have a higher financing cost and would require platting a portion of the Capitol Campus for the project. It would not be equitable to have office space sustain the cost of parking

and the public plazas and spaces that would be available and used by an array of users. Therefore, the predesign recommends those components be financed with GO Bond financing.

The following financing strategies are assumed:

- General Office Building A – COP Financing
- General Office Building B – COP Financing
- Heritage Center – COP Financing supported by Secretary of State’s proposed rate increases.
- Executive Office Building – COP Financing
- Parking Garage – GO Bond Financing
- Plazas – GO Bond Financing

I. Implementation Approach

Design & Construction

There are several public works project delivery methods available: traditional Design/Bid/Build, General Contractor/Construction Manager (GC/CM), and Design/Build. The Department of General Administration has extensive experience in managing all of these methods. Each of these methods have been considered and analyzed.

- **Design/Bid/Build (DBB):** In the traditional approach to construction the project, this is the prescribed method of delivery. The owner (state) selects an architect/engineer (A/E) team to help define the project, develop the design and bid documents and monitor construction progress. The construction contract is awarded to the lowest responsive, responsible bidder to build the project. This method is most suitable for small and mid-size projects.

Pros:

- This process is well understood by all involved parties.
- Open competition.
- Potential for high degree of control and involvement by the owner.
- Independent oversight of construction contractor by A/E.

Cons:

- Segments design, construction and operation and reduces collaboration.
- Linear process increases duration.
- Risks are primarily borne by the owner.
- Prone to disputes and creates opportunities for risk avoidance by the A/E and contractor.
- Low-bid contractor selection reduces creativity and increases risks of performance problems.

- **General Contractor/Construction Manager (GC/CM):** The GC/CM is selected at the beginning of the design process. The A/E team and GC/CM work together throughout the design process. The GC/CM role during design is to monitor and make suggestions relating to budget, constructability, and inter-discipline coordination. The A/E team maintains full responsibility for the design. The GC/CM will guarantee the construction cost during the design phase. The GC/CM manages the bid process through competitive bid packages to subcontractors. RCW 39.10 limits the use of GC/CM to complex projects over \$10 million.

Pros:

- A more collaborative design and construction team is created.
- The GC/CM is selected based on primarily qualifications and then on price, thus ensuring that the contractor can manage the complexity of the project.

- Schedule can be accelerated.
- GC/CM shares risk for project by guaranteeing cost..
- Errors and omissions in the drawings are greatly reduced.
- Major subcontractors (mechanical electrical) may be pre-qualified.

Cons:

- There is a premium paid for preconstruction services.
- Sub-contracting community has concerns about GC/CM unfairly burdening the subcontractors.
- All subcontracts must be competitively bid and awarded to the lowest responsive bidder.
- Willingness of GC/CM to guarantee price in volatile bidding environment will favor setting MACC later in the design process (90-100% CD)

- **Design/Build (DB):** The design-build selection process is two-tiered. The design-build team, consisting of architects, engineers and contractors, respond to a Request for Qualifications prepared by the owner. A panel of judges will evaluate the RFQs and develop a short list of candidates to respond to a request for proposals. The RFP is a performance specification outlining in detail the owner's expectations for the project. The panel selects the contractor/A/E team based on the best proposal, qualifications and price. A contract is negotiated with the contractor for both the design and construction of the selected proposed design. The contractor holds the contract with the architect. RCW 39.10 requires that an honorarium be paid to the non-successful respondents. This process is limited to projects over \$10 million that do not require a large degree of owner input.

Pros:

- There is only one point of accountability for the owner to manage.
- The construction cost is guaranteed at the award of the contract.
- The majority of owner decisions are made prior to the contract award.
- The contractor carries the risk of the project.

Cons:

- The RFP must be clearly written to include all owner expectations.
- Design/build approach reduces owner control over design details. Owner's rejection of the design details may entail change orders and delay claims.
- There is a high cost to design-build firms to compete, which may limit competition
- The design team works for the contractor, not the owner.

Recommendation

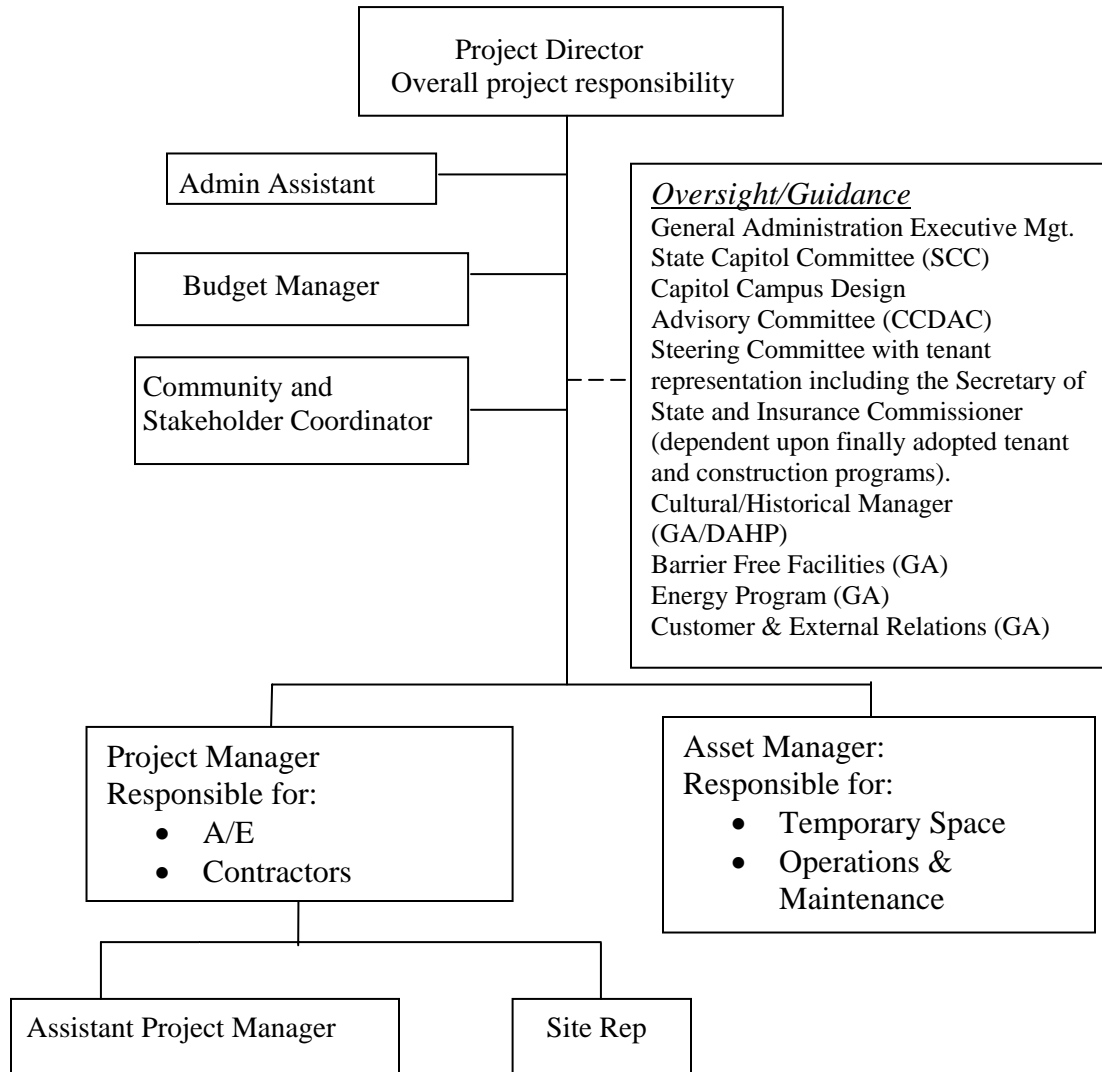
The nature of this project indicates detailed involvement by numerous entities and agencies throughout design. The political scrutiny expected by the location on West Campus means that a 'hands-on' approach should be taken to manage this project. These facts virtually eliminate the design-build approach. This project is too large and phasing too complex to utilize design/bid/build with success. The recommended option is GC/CM because it matches the size, complexity and schedule for this project.

This project will be a multi-phased project that anticipates implementation over two or more biennia. During this time frame there will be an overlap of design and construction. Having the contractor involved to provide input to construction sequencing during all phases of the design process will enhance the success of the project. Constant constructability review will add value to design development particularly in the earthwork category. Appropriate fees have been added to the budget to take advantage of the value added by the GC/CM process.

J. Project Management

GA Project Staffing

This project will be managed by staff within GA with oversight and guidance by the State Capitol Committee (SCC), Capitol Campus Design Advisory Committee (CCDAC), and a Steering Committee consisting of stakeholders from various agencies. GA Executive Management will be actively involved and take a lead role in final decisions for the project. GA staff will provide additional consultative support in partnership with other agencies and stakeholders, including the areas of historic preservation and protection of cultural resources, barrier-free design, sustainable building practices, and maintenance and operations. GA's Facilities Division employs many licensed professionals with experience and expertise in building design and construction who may be called upon for consultation 'as needed.'



The Project Director (PD) will have primary responsibility for the project. This position will manage the overall progress of the project and will have or obtain final approval of scope, schedule and budget decisions. The PD will interact regularly with General Administration Executive management and report to the Assistant Director of Facilities. The other members of the project team will report to the PD.

Critical to the management and success of these projects is the role of the Steering Committee. Membership on the project Steering Committee will depend on which specific projects are authorized and the tenant program selected to be housed in those projects. Membership should include representatives from the Office of Financial Management, the Department of General Administration and representatives of the major tenancies (e.g., Office of the Secretary of State and the Office of the Insurance Commissioner).

The Project Manager (PM) is primarily responsible for managing the design and construction activity. This person will organize and conduct the selection of the architecture/engineering consultant and GC/CM and write the design and construction contracts. The PM will follow through from design to construction to make sure that scope, schedule and budget is maintained. The PM will report to the Project Director.

The Assistant Project Manager will assist the Project Manager and Project Director in their duties. Due to the phasing proposed, there will be significant overlap between construction and design during the various phases. This person will be responsible for maintaining and documenting LEED® progress and assuring systems integration.

The Asset Manager will primarily be responsible for tenant and stakeholder co-ordination, furniture acquisition, and program development. This person will be knowledgeable in building operations and their effects on the project budget. This person will report to the Project Director.

A Budget Manager will be brought on board early to monitor and maintain the financial health of the project. This person will be responsible for tracking design, construction and owner costs for the duration of the project. This person will report to the Project Director.

Once construction commences, a GA Site Representative will be on board to monitor and document construction activity. This person will be the eyes and ears on the ground on a daily basis. The Site Rep's role is to report any construction irregularities and discrepancies to the Project Manager.

Since these will be the first buildings constructed on the West Capitol Campus in nearly 50 years and the largest capital project ever, it will be perhaps the most closely examined project in the state. As such, it will be critical to keep constituents and partners well informed about progress and future developments. A GA staff person will be the community and stakeholder coordinator with support from the GA Customer and External Relations group will be a vital part of the project team for the duration of the project to manage public information, communications and expectations. This person will report to the Project Director.

Supporting the project team will be an administrative assistant. This person will be responsible for maintaining the project record, making sure meetings are scheduled and all parties notified. This person will work closely with all members of the team as well as internal GA and external stakeholders. This person will report to the Project Director.

Oversight and Guidance for historical structures and landscapes as well as any cultural artifacts that may be uncovered during construction will be by GA's Cultural /Historical Manager with input for the Department of Archeology and Historical Preservation. Universal accessibility issues will be guided by the Barrier Free Facilities Coordinator. At every design milestone, the design will be reviewed to ensure universal access for all. Monitoring and advising the design

and construction team on energy and LEED® issues will be the GA Sustainable Building Manager.

K. Schedule

The proposed schedule sets phases for activity beginning with the design of the General Office Building A in 2007 and ending with final plaza and landscape construction in 2014. The first phase, Office Building A, will be designed and commence construction in the 2007-2009 biennium. Schematic design for the rest of the project will continue directly after the completion of construction documents for Phase I and concurrently with construction of Phase I. This is done to ensure efficient construction interfaces between the different phases and to minimize or eliminate backtracking.

Alternatively, design for the entire project could be funded separately and construction phased with either the Heritage Center and a portion of the General Office Building being constructed first or in parallel. All underground work would need to be completed before the Executive Office Building or Office Building B could be constructed. The plazas and landscaping would occur after all the buildings are complete. With the unanticipated volatility in the current construction market expected to continue for the next 24 months or longer, delaying construction is be a risk worth considering.

The chart below provides a broad outline of the proposed phases, with detailed descriptions in the narrative that follows.

FY07	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15
Phase I A Heritage Ctr. Design	Phase IA Heritage Ctr Design/Bid	Phase IA Heritage Ctr Construction	Phase IA Heritage Ctr. Construction	Phase IA Heritage Ctr. Occupy				
Phase 1B Gen. Office A Design	Phase 1B Gen. Office A Bid	Phase 1B Gen. Office A Construction	Phase 1B Gen. Office A Occupy					
	Schematic Design for the Remainder of Project							
		Phase II Parking Design & Bid	Phase II Parking Construction	Phase II Parking Occupy				
			Phase IIIA Exec Office Bldg Design	Phase IIIA Exec Office Bldg Bid & Construction	Phase IIIA Exec Office Construction	Phase IIIA Exec Office Occupy		
				Phase IIIB Gen. Office B Design & Bid	Phase IIIB Gen. Office B Construction	Phase IIIB Gen. Office B Occuyn		
					Phase V Public Plazas Design, & Bid	Phase V Public Plazas Construction		

Predesign: February 2006-August 2006

PHASE IA – Washington State Heritage Center

Design July 2007-November 2008
Bid: December 2008-February 2009
50% Construction: February 2010
Substantial Completion: February 2011
Final Acceptance: May 2011
Move In: June 2011

PHASE IB – General Office Building A

Design: June 2007-May 2008
Bid: August 2008-October 2008
50% Construction: July 2009
Substantial Completion: May 2010
Final Acceptance: July 2010
Move In: August 2010

Demo GA Building: September 2010 – November 2010
Schematic Design Remaining Project: November 2008 - June 2009

PHASE II – Parking Structure

Complete Design: June 2009-March 2010
Bid: August 2010-October 2010
50% Construction: March 2011
Substantial Completion: July 2011
Final Acceptance: October 2011

PHASE IIIA – Executive Office Building

Complete Design: January 2010 – August 2010
Bid: December 2010-February 2011
50% Construction: February 2012
Substantial Completion: November 2012
Final Acceptance: March 2013
Move in: April 2013

PHASE IIIB – General Office Building B

Bid: January 2011
50% Construction: February 2012
Substantial Completion: December 2012
Final Acceptance: March 2013
Move in: April 2013

Phase IV – Plazas + Final Landscaping

Design: October 2011 – May 2012
Bid: July 2012
50% Construction: October 2012
Substantial Completion: December 2012
Final Acceptance: April 2013

L. Temporary Housing and Permanent Housing

Some agencies currently in the General Administration Building may find themselves displaced as a result of this project, either temporarily or permanently. Attempts have been made to adjust construction phasing so that moving costs are kept at a minimum. The predesign team believes there is an adequate supply of available space in the Olympia area to ensure that disruptions to state business are minimal. Those agencies requiring new permanent homes will be housed in an appropriate manner and in a timely fashion.

1063 Building

The preferred alternative and alternative B both require the demolition of 1063 Capitol Way (on the corner of Capital Way and 11th Avenue). State programs occupying 1063 will need temporary housing if they are going to move into the new Executive Office Plaza's General Office Building or permanent housing in a new location if they are not scheduled to move into the new structures.

GA Building

Occupants of the GA Building will be required to relocate temporarily or permanently depending on whether they are to be tenants in the new office building.

Relocation Costs

The attached *Relocation Cost Spreadsheet* indicates moving costs and tenant improvement costs. Temporary space will need some tenant improvement in order for continued operations. Cost components include, but are not limited to:

- Moving costs — work stations dismantle, move and assemble, etc.
- Construction – hard wall areas for private offices, work rooms, training rooms, restrooms, etc. that require hard wall partitions to define and protect the space.
- Voice/data and server rooms--These elements need to be provided whether the housing is permanent or temporary.

Relocation Methodology

In order to maximize the state's resources and reduce costs, General Administration will address state space needs according to the following priority list of preferred locations:

- A) Space owned by GA.
- B) Space owned by other state agencies, boards and commissions.
- C) Privately owned vacant space still under lease to other state agencies, boards or commissions.
- D) Space that is vacant as a result of a major consolidation and that vacancy potentially creates an adverse economic impact on the local community and multiple lessors.
- E) After the above categories have been considered, privately owned space available to be leased may be considered.

A likely scenario for accommodating relocation is private sector leased space. There is ample private space available at present and in the foreseeable future.

- ✓ Olympia has or will have over 260,000 SF
- ✓ Lacey has or will have over 66,000 SF, and
- ✓ Tumwater has or will have over 60,000 SF

Much of this space is contiguous, which is desirable when housing larger agencies.

Refer to the *Relocation Cost* spreadsheet for costs.

Conservatory and Maintenance Shop

The functions of the Conservatory, Grounds Maintenance Shop, Secure Vehicle Storage and Parking Compound will need to be permanently relocated if the preferred alternative is implemented. A brief discussion on existing condition and needs follows.

1. Conservatory Greenhouse

The conservatory greenhouse is a tourist attraction designed by a prominent area architect in the 1930s. Exotic plants from all over the world are housed in the 8,091 SF greenhouse. A few are over 100 years old and quite valuable. The predesign calls for incorporating a new conservatory greenhouse into the Heritage Center.

The construction for the new Executive Office Plaza-Heritage Center complex will take place north of 11th Ave. The Conservatory (with its plants) and the Maintenance compound can remain intact until the Heritage Center, with a new conservatory, is completed and ready to receive the existing greenhouse plants. However, relocating and constructing a new Maintenance Facility complete with Secure Vehicle Storage and parking area before the project begins could provide area for the “construction office complex” and a secure lay-down area.

2. Maintenance Facility

The maintenance facility is located below the Conservatory greenhouse and serves the groundskeeping function with space for maintenance, repair, and parking for the vehicles and equipment. Based in this location, groundskeepers maintain the East and West Campus, Heritage Park and L&I and other Capitol Campus properties. The current facility consists of a maintenance and repair shop of 1,522 SF, break and lunch rooms, shower, and restroom area of 2,347 SF. An enclosure abuts the building with a total of 30,000 SF used for parking 20 vehicles and covered storage. A 2,200 SF covered equipment structure houses mowing tractors, rototillers and similar equipment.

Replacement Facility

A new facility will need to replace the existing if the Preferred Alternative is adopted.

This could consist of:

New maintenance area	2500 sf
Adjoining vehicle maintenance shop with hoist for 4 vehicles	500 sf
Office/lunchroom/break shower and restroom area	2000 sf
<i>Total area</i>	<i>5000 sf</i>

Secure Vehicle Storage 2200 sf

This area could be a pole structure with two 12 x 12 overhead doors. Clear height should be 14 FT. It may require a more upscale exterior appearance depending on location. Secure enclosure of approximately 30,000 SF needs to be enlarged to accommodate 40 parking stalls instead of the current 20. A new maintenance facility is outside the scope of this project and will be addressed at another time.

M. Identification of Issues

Throughout the predesign process, there have been few issues unresolved that will be addressed either prior to design or early in the design process.

- *Construction on the Hillside*
Community members and others expressed concern about the effects of construction on a hillside that in recent years has had work done to improve its stability. Although preliminary examinations by architects and engineers show the hillside is stable, additional environmental studies would be included in a full project design. This would also include the potential effects the buildings would have on Capitol Lake and Heritage Park.
- *Project Financing Impact*
The cost of Certificate of Participation (COP) financing will fall on the tenants to be paid for the most part via monthly lease payments. It is very likely the tenants will experience a significant increase in their lease costs. Under the COP financing scenario, tenants will need to agree to the rent charges and will need to allow for the payments in their annual operating budget.
- *Possible Closure of Columbia Street*
The preferred alternative would close Columbia Street. Some residents of the South Capitol Neighborhood, as well as local government officials, have asked that access for emergency service vehicles be carefully considered in any design proposal. A study is currently under way to determine how traffic flow would be affected.
 - Full closure of Columbia Street.
 - Limited access to Columbia Street for emergency purposes.
 The results of this study will be available this fall.
- *Tenants for General Office Building*
The design concept for the General Office Building can accommodate many different agencies over a long time period. The initial assumptions would co-locate current tenants of the General Administration Building in a new office building.

As the predesign progressed, a recommendation surfaced to dedicate this project to a critical state priority, education. The Capitol Campus Design Advisory Committee endorsed the education recommendation. More time is needed to thoroughly examine this option. The costs reflected in this report are general estimates that will accommodate either general office staff or the education agency proposal.
- *Parking*
The Legislature asked that sufficient parking spaces replace and add to those lost in any project. The predesign project adds 119 parking stalls – to 503 from the current level of 384.
- *Historic Preservation*
Interest surfaced about historic preservation considerations for the General Administration Building and the Conservatory. A design of the overall project would include a Historic American Building Survey. This report would identify historic features that would need to be preserved or re-used. The findings of such a study is unknown at this time, but would likely include the mosaic in the lobby of the General Administration Building, the state seal at the building's front entrance and other historically significant elements that could be salvaged and incorporated into the new design. A comprehensive engineering study will be included in the design process to determine if the Conservatory should be preserved and moved.

3. PROGRAM ANALYSIS

A. Program Assumptions

This predesign and programming information is for the replacement or renovation of the General Administration Building combined with the development of a building on the block adjoining Capitol Way and 11th Avenue. The combined development is intended to provide:

1. Executive office space for statewide elected officials
2. Public access space for the State Library collection and State Archives and exhibit space for historically significant documents from the state archives and collections from the Washington State Capitol Museum
3. High-density general office space that can adapt to changing state needs

The intent of this predesign is to develop a grouping of buildings that fits the intent of the authorizing legislation and that meets the principles of the Master Plan for the Capitol of the State of Washington.

The Executive Office Facility

Programming assumes that this Executive Office Building would house the State Insurance Commissioner and State Treasurer staff in response to Project Request Report Project No. 03-088 (June 2003).

The Heritage Center

The following spaces, combined with shared conference spaces, are referred in this program as The Heritage Center:

- Space for the Washington State Library (currently in rented facilities)
- Space for the Washington State Archives (currently housed in a shared facility on the east campus)
- The Washington State Capitol Museum.

General Office Space

This program replaces space for agencies currently housed in the General Administration Building. Alternative program strategies to collocate Education Agencies have also been explored. Use of the General Office Building or a fully renovated General Administration Building can programmatically house the state's Education Agencies. The intent of the General Office Building space is to be adaptable to changing state needs. Although in this program we show a group of potential tenants, the flexibility of the proposed facility will enable alternate tenancy strategies.

This project and program outlines ways to maximize interagency sharing of support services such as information technology; printing; mailing; management and storage of supplies; reception areas; and other common functions. The project and program supplies a significant net increase in parking beyond what is required for the new office space and includes leasable ground floor retail space on Capitol Way

B. Existing Facilities

1. General Description

General Administration Building

This office building was completed in 1956 and has housed a variety of state agencies over the years. In addition to office functions, it includes a flat-floor auditorium, cafeteria and campus communications and security systems

General Administration Garage

This three-level concrete parking garage with at-grade entries on three sides was completed in 1960. It provides visitor parking on top and two lower levels of staff parking with a total of 238 stalls.

1063 Capitol Way Building (also known as the Dawley building)

This two-story building was completed in 1940. It has parking in the basement and houses state agencies, non-profit entities, retail and private office space.

2. State Facility Inventory System

These three structures are included in the State Facility Inventory System as follows:

	Gross SF ¹	Usable SF ²	Condition
General Administration Building	279,700	263,200	3
General Administration Garage (238 stalls)	67,100	67,100	2
1063 Capitol Way Building (non-profit, retail, private office)	36,180	33,488	3

3. General Administration Building Assessment

Architectural Assessment

Currently, the GA Building provides a poor work environment. Its large floor plate size puts most occupants away from light, view and air. It has had air conditioning and other systems added over the years. The building envelope, lighting and mechanical systems are far below current energy efficiency standards. The elevators utilize original controls and motors. Interior partitions are heavy masonry, increasing the likelihood of seismic damage. Interior finishes are worn. The building structure requires a seismic upgrade. The remaining building systems are in need of replacement due to their age and functional and operational obsolescence. The exterior skin is not energy efficient.

Left in its current state, the GA Building will require significant capitol repair and upgrade. While fully replacing all interior systems and rebuilding the exterior envelope would

¹ The area take-offs of the existing building on the as-built drawings vary from these amounts.

² The area take-offs of the existing building on the as-built drawings vary from these amounts.

alleviate many of these deficiencies, the building would still block most occupants from daylighting.

Structural Assessment

The following summarizes the findings of the analysis of the existing GA Building structural systems. A detailed description of the evaluation methodology used and itemized seismic checklist is included in Appendix 9.7.

Existing Building Structure Description

The GA Building is a six-story, 282,000-square-foot, concrete-framed structure. The gravity load resisting system consists of concrete slab and joists and beams supported on concrete walls and columns.

The lateral (seismic and wind) resisting system consists of concrete floor and roof diaphragms and concrete shear walls. The concrete shear walls are primarily concentrated around the stair and elevator cores at the south and west portion of the building.

Findings

The existing gravity load supporting systems appear to have sufficient capacity for the original loads for which the building was intended.

The following deficiencies were identified with respect to the lateral load resisting system:

- The calculated shear stress in the existing shear walls exceeds recommended code limits by as much as 88% to 150% at the lower floor levels.
- The perimeter concrete columns at the north and east façades lack sufficient reinforcement to accommodate horizontal seismic drift/displacement.

Mechanical & Plumbing Assessment

Air Conditioning Systems

Main Air Handling:

The majority of the building is served by two major fan systems, S-1/E-1 and S-4/E-4.

- System S-1/E-1 is located in the south penthouse on the building roof and serves the south half of the building on the ground floor, 1st floor, 2nd floor, 3rd floor and the southeast area of the 4th floor.
- System S-4/E-4 is located in the north penthouse on the building roof and serves the north half of the building on floors 1 through 4. These fan systems were intended to provide heating season tempered air (steam coils) and ventilation only (no cooling) when they were installed as part of the original construction in 1956.

It should be noted that the outside air intake louvers are undersized, resulting in too-high intake velocity, rainwater entrainment and seasonal problems with soggy filters.

Both systems were constant volume type systems until 1989, when the systems were retrofitted to provide some variable air volume (VAV) control and to improve zone circulation. Modulating dampers and static pressure control were added to the main supply and return fans, and zone series fans with zone modulating dampers were installed on each floor to provide from two to four VAV terminal zones per floor. Zone supply air temperature is controlled by modulating the amount of primary air, and zone supply air temperature is reset based upon zone return air temperature. In order to enhance air circulation, formerly deactivated system S-6/E-6, located in the north mechanical

penthouse, was reactivated in series with system S-4/E-4, and with a new zone fan to serve the first floor northeast.

Air Distribution/Delivery:

The majority of the building is still served by the original rectangular duct distribution system which is neither insulated nor lined. Air delivery is still predominantly through the original combination supply/return diffusers so the return is ducted. A number of areas have been updated with separate supply and return diffusers. Access above the concealed spline ceiling is difficult, so volume damper axles are extended through the ceiling throughout the building. The first-floor lobby is neither ventilated nor cooled.

System S-2/E-2 is a single zone, heating-only system that serves the first-floor auditorium. It is located in the south penthouse.

System S-3/E-3 is a single zone, heating only system and provides 100% outside air with no return air, which serves the fourth-floor southwest area including the agriculture lab.

System S-12/E-13 serves the basement north area. It is a VAV system that uses variable inlet vanes on the main fans to modulate air volume. Cooling coils and heating coils exist at the supply fan. The air handling unit is located in the basement mechanical room at the north exterior of the building. The outside air intake is located about 12 feet above the north building grade and about 60 lateral feet from the loading dock area. The occupied zones are served by VAV terminal units with terminal air delivery via linear diffusers. The remodeling to convert this area to a VAV system occurred in 1984.

System S-13/E-14 serves the ground floor north. It is a VAV system similar to system S-12/E-13. The air handling unit is located in roof's north penthouse. The remodeling to convert this area to VAV occurred in 1984.

The southwest area of the basement is served by a constant volume multizone air handling unit provided with a central chilled water coil and zone steam heating coils. The "road runner" computer and the Labor and Industries computer are located in this area. In this case, chilled water for the supply fan coil is provided by two Trane chillers located in the south penthouse. Steam for the heating coils is provided from the central campus system. Outside air is taken in one floor above, at the southwest corner of the ground level. Air is distributed below the raised floor of the computer area. In adjacent areas air is distributed at the ceiling. The space above the ceiling acts as a return air plenum.

Additional Ambient Cooling:

A number of packaged, self-contained and city water-cooled spot coolers have been added over the years to enhance local comfort in various areas. Due to insufficient documentation, capacities of all the units have not been verified.

Transformer Rooms (Ventilation and Cooling):

There are two transformer rooms located in the basement. Transformer Room No. 1 is centrally located and Transformer Room No. 2 is located at the north perimeter of the building. It appears that there is currently no cooling available for either of the transformer rooms. They are, however, ventilated. Ventilation is achieved with a 4000 CFM fan which pulls outside air through Transformer Room No. 1 and discharges it to Transformer Room No. 2. Both rooms should be provided with cooling.

Conclusions

1. Systems are beyond their normal service life. In today's terms they are inefficient. The ventilation rates provided do not comply with current state requirements.
2. Existing dual mode supply/return diffusers are inadequate and outdated.
3. Majority of ductwork not insulated.
4. Operable sash adversely affects cooling capacity.
5. Size of louvered outside air openings allows rain water to enter, soaking filters.
6. Location of outside air intake near loading dock allows pollutants from truck exhaust and cargo to infiltrate the air system, resulting in poor and potentially dangerous indoor air quality.
7. Poor ventilation/balancing allows cafeteria smells migrating to all areas of building.
8. Very limited operator control due to lack of central coordinated control system.
9. Need Additional ambient cooling.
10. Too many once-through, city water-cooled spot coolers and chillers.
11. No separation of spot-cooling air circulation from main system cooling air.
12. No dedicated computer server room and special-use cooling system.
13. Lack of central cooling for transformer rooms.

Heating System

Campus steam serves two converters in the ground floor mechanical room which in-turn provide heating hot water for the perimeter finned tube radiation system. There are five independent perimeter heating zones, the north, east, south, west (compass) exposures and the ground floor northeast zone. Zone temperature sensors in the respective zones control the on/off status of the zone pumps. The heating hot water supply temperature is set and reset by the outside air temperature. No further control or flow subdivision exists for the four compass zones, so each entire zone is controlled to the same heating respective hot water temperature. The ground floor northeast zone has benefited from the addition of room thermostats and control valves to provide individual room heating control.

Conclusions

1. Zone resolution inadequate, does not meet variable comfort needs.
2. Lack of control integration with air side allows simultaneous heating and cooling.

Existing Cooling System at GA

In 1979 10" Campus chilled water service was extended into the GA Building. Campus chilled water hydronic controls were added in 2001.

Existing Plumbing Systems at GA

The existing galvanized steel domestic water distribution system has been in place for 36 years. Experience with similar systems has been that problematic water discoloration and line restriction due to corrosion takes place after as little as 15 to 20 years. State maintenance personnel confirm that this is a problem at the GA Building. A particular annoyance that was voiced during the survey was the leakage problem that persists at the lower terminus of the north plumbing chase on the second floor. Occupied space on the first floor bears the inconvenience of any leakage there.

The waste and vent systems are reported to be in good shape. The extent of reuse of these systems would depend on the scale and scope of any renovation.

Domestic hot water is generated by an aging steam-fired hot water tank located in the ground floor south mechanical room. The hot water tank has outlived its economically useful life.

Conclusions

1. Galvanized domestic water distribution system corrosion and scaling result in flow reduction, leaks and discoloration.
2. Discontinuous pipe chase at the second floor results in leaks that affect occupied space below.

Existing Fire Sprinkler Systems at GA

Essentially the entire basement is sprinklered as are the public areas of the ground floor. None of the rest of the building is sprinklered.

Conclusion:

1. Only a small percentage of the building is currently sprinklered, so adequate protection does not exist.

Electrical Assessment

Power Service

The GA Building is electrical served with 12.47KV from circuits #17 and circuits #18. These circuits are fed from the Capitol Campus 12KV loop. Circuits #17 and #18 terminate in a 600A, 5 section 13.8KV medium voltage switchgear located in the basement. The gear then feeds two 2500amp 120/208V, 3phase, 4 wire switchboards via integral 1000KVA step down transformer. The medium voltage switchgear and the two 2500amp switchboard are of 1990s vintage and appear in very good condition. The switchboards will not be reused since they cannot serve the new capacity of the project. The switchboard should be salvaged and returned to the owner for future applications. The 600A, 5 section 13.8KV medium voltage switchgear should be salvage for the new project.

Emergency Power

The building has two existing diesel generators located in the penthouse. One is sized at 80KW, 208Y/120V and the other is sized at 100KW, 208Y/120V. The 80KW generator is manufactured by Cummins and is in good condition. The 100KW generator is manufactured by Marathon and appears to be near the end of its useful life. The generators are connected together with paralleling gear and serves emergency electrical power to the code required exit/egress lighting, fire alarm panel, stairway pressurization fans. The generators will not be reused because they will be unable to serve the new load of the building at the correct voltage. The generators should be salvaged and returned to the owner for future applications.

Power Distribution

Existing branch panelboards are located throughout the building and are fed from both main switchboards. The panelboards serve branch loads consisting primarily of lighting and receptacles. The panelboards are typically located in dedicated electrical rooms or closets.

The panel boards vary in terms of age and manufacturer but most are 10-plus years old and manufacturer by SQD. Most of the panel boards have limited available spaces for additional breakers. Most existing panel boards cannot be reused because of their age and unsuitable sizes.

Lighting

There are multiple fixture types throughout the building and multiple lamps including 4' T8, 4' T12, and compact fluorescent. The lighting is near the end of its useful life.

Control systems for the lighting are not compliant with current energy code.

There are no light fixtures of a historical nature.

Communications Assessment

The building's fiber optic cable service is currently fed from the basement. The GA Building currently houses the main communication and security head end systems for the Capitol Campus. These head end system must be permanently or temporarily relocated to allow for the new project. The MDF is located in the basement and is in good condition. The distribution of communication system consists of station cables though-out the building ran above the ceiling. The existing station cables appear to be of different ages and cannot be reused.

Access Control Assessment

The building does have an access control system to control after-hours business access. Pelco model cameras are located in specific outside areas. The system should be reviewed in more detail to determine what should be salvaged. The Campus Security head end system is located within the building and should be temporarily or permanently relocated.

Intercom/TV Systems Assessment

The building has a limited TV system capacity that is not suitable for the new project requirements and will thus be removed.

Lightning Protection Assessment

The building has one 25' lightning rod on the roof. The rod is not suitable for the new project requirements and should be removed.

Fire Alarm System Assessment

The existing building's fire alarm system consists of a Johnson Control panel of 1980s vintage and related annunciation devices. There is an exterior outdoor 1980 vintage graphic annunciator located on the exterior wall. The existing system does not meet current code and should be replaced.

Analysis of Cultural Resource Impacts

Cultural resources include both historic structures and archaeological resources (above and below ground). Governor's Executive Order 05-05 requires an examination of State capital projects for potential impact on cultural resources. Additionally, RCW 79.24.720 directs that certain buildings and the grounds of the West Capitol Campus be treated according to the U.S. Secretary of the Interior's Standards for Treatment of Historic Properties. Both of these measures seek to protect historic and cultural resources, and mitigate negative impacts to them.

Resources above Ground

The Executive Office Plaza preferred pre-design alternative would require demolition of four structures that each have varying degrees of historic value: the Dawley or Capital Park Building at 1063 Capital Way, the General Administration Parking Garage, the General Administration Building, and the Capitol Conservatory. The West Capitol Campus would also be impacted by the re-routing of the 11th Street-Cherry Lane connector, and the extension west of the existing lawn over the former location of that connector (Water Street).

When a historic resource is going to be lost or otherwise adversely impacted, the development of mitigation strategies is a typical and reasonable response. Specific mitigation measures can be determined through discussion and negotiation between the property owner (GA) and the Department of Archaeology and Historic Preservation (DAHP), other affected/impacted groups such as neighborhood associations, city government, Native American tribes with interest in the geographic area (primarily Squaxin, Chehalis and Nisqually in this case), and the general public.

Documentation of the compromised structures is a standard element of mitigation. It can take the form of a Historic American Building Survey (HABS), a historic structure report, or other architectural and photographic recordation such as the filing of inventory forms with local and state preservation agencies. Three levels of HABS documentation provide opportunity to tailor that approach to the value of the asset. The level of documentation applied to 1063 Capital Way, the GA Parking Garage and the Capital Conservatory would likely be the simplest. The GA Building has had some documentation completed for it already and is currently the subject of a possible nomination for the National Register of Historic Places. Taken together, these sources of documentation may be sufficient or the state may wish to augment them with limited HABS documentation.

Other possible mitigation measures might include financial support for interpretation or preservation of other historic elements of the Capitol Campus. For example:

- Preservation of nearby campus art, landscape, or building features, or
- Development of interpretive materials describing the history of the GA Building and its construction

Mitigation can also include identification, salvage and possibly the re-use of character-defining features of the buildings in question. In the case of the GA Building this would include the Beall mosaic mural in the lobby, and may include the exterior sandstone, the State of Washington seal on the front of the building, and notable building features to be identified through a careful survey. Documentation must be completed prior to the beginning of demolition. Salvage of historic features as a mitigation measure would obviously be an early part of the construction process.

It is difficult to associate costs for mitigating the impacts to cultural resources until mitigation measures have been determined. For this reason it is recommended that mitigation negotiation be included in the design phase/appropriation and that \$250,000 be included in the current budget estimates for mitigation costs (\$100,000 added to Heritage Center; \$100,000 added to Office Building A; \$50,000 added to Office Building B).

Resources Below Ground

The preferred alternative includes substantial excavation for a parking garage and the Heritage Center, and additional excavation is possible. Cultural resource surveys will be necessary for all

project excavation sites. Cultural resource surveys have three levels of complexity. An initial survey helps to determine the level that is appropriate for a given project through sample field surface investigation (which could be included as part of the soil sampling phase of design work), and literature and file search of previous survey work for the site. If initial surveys reveal that cultural resources are present, it would not be unusual for costs to exceed \$50,000, especially if monitoring during construction is required.

Viewscales

The original campus design by architects Wilder and White proportioned and placed the classical buildings of the Capitol Group to be perceived from the north as a single massed structure. While this view has been obscured over the years by vegetation and the construction of the Capitol Center building on Fifth Avenue downtown, the design intent is still present and achievable. The Heritage Center and Executive Office buildings, located further north and further west of today's GA Building, will need to be designed in accord with the Wilder and White design vision.

Mitigation measures regarding this impact would be discussed and negotiated with those "above ground", above.

C. Space Needs Assessment and Descriptions

Introduction and Process

The development of the program for this predesign began with an initial survey of 104 state agencies housed in Thurston County to solicit their interest in this project. Of that 104, early interest was expressed by 44 (60 had no interest in the project). A review of the 44 agency's current occupancy indicated a need for at least 900,000 square feet of space – far exceeding the site's capacity. An internal GA staff team reviewed the 44 agency space needs against four criteria to settle on a final group of agencies to be interviewed. The following are the criteria used:

- The Capitol Master Plan, specifically, "Is this function critical to the effectiveness of the activities (legislative process of lawmaking) in the Legislative Building?" (<http://www.ga.wa.gov/Campus/MasterPlan.htm>)
- The language from the budget proviso, specifically, "Did the Legislature specifically mention the agency or function in the proviso?"
- The 2001 Thurston County Lease and Space Planning Study, specifically, "Was this agency identified as having a top priority facility need?" (<http://www.ga.wa.gov/Reports/index.html>)
- Tradition, "Has this function been traditionally located on or near the West Campus?"

The list of 44 was narrowed to 30 who were scheduled for detailed programming interviews. The first set of interviews established the goals for the agency and a basic understanding of the mission and activities of the agency. These interviews were followed by data collection of existing space usage and staff counts. We then had a second set of interviews where functional relationships were established and space needs and growth were developed. With that information and using the Department of General Administration's Space Allocation Guidelines, we developed the program requirements.

Existing assignable space was tabulated to determine the assignable square footage used by each department. Adjustments were made within each department's space allocation to accommodate current operational needs and General Administration space standards. Where appropriate, we accounted for known increases in staff and program out to 2010. In addition, a growth factor of 1.2% per annum (see "Future Requirements and Flexibility" in this Section for detail calculation of the growth factor) to 2020 was applied and shown separately.

In addition to space needs, we developed technical requirements for spaces. Using local code requirements and the State of Washington Office Standards we developed both building technical requirements and room requirements. We also developed LEED® certification goals in a public forum June 14, 2006 about some environmental concerns.

The following report sections show the results of these efforts:

Space needs Summary

This one-page summary outlines the space needs showing the existing usable area, program net area, program gross area, program FTE and the preferred alternative design useable and gross area. The detailed program can be found in Appendix 9.3. This also allocated the agencies to the

appropriate building type as outlined by the predesign legislation. It also allocated shared conference facilities.

We initially developed program information for more agencies than will fit into the project area with the intent of matching the occupancy to the best building configuration. The preferred alternative building configuration will house 411,483 useable square feet along with 503 parking stalls. This adds 119 parking stalls from the current level of 384.

The Executive Office Building will house the State Insurance Commissioner and staff for both the Insurance Commissioner and the State Treasurer. The State Auditor, who was considered for the building, will remain in the Insurance Building. The Office of Financial Management will occupy the remaining space.

The Heritage Center will house the State Library and the State Archives, and the Washington State Capitol Museum along with publicly accessible space to display the state's major documents and important historic artifacts. This will be combined with a conference center, a café and a relocated conservatory. The remaining space will house additional general office space for a number of other state agencies.

The General Office building will be high density flexible office space that can house a wide variety of governmental functions. The agencies that have been displaced by demolition of the GA Building are the ones initially identified to occupy this space, but many combinations of agencies could easily occupy this flexible space. At their July 25, 2006 meeting the Capitol Campus Design Advisory Committee recommended the General Office space be considered for an Education Center. Initial program and needed square foot review indicate that should an Education Center be deemed as the most appropriate program for the General Office, that program could be housed without additional project cost. In addition to the office space there is allocated retail space on the ground floor on the northeast corner of the building. Also included in this building are number of support facilities, such as a loading dock and print shop.

We have also shown an adjustment to the useable areas in each building that recognizes the relocation of shared conference space into the conference center in the Heritage Building. That space is programmed in the individual agency programs but has been netted out of the total individual building square feet with the understanding that agencies can share Heritage Center conference space. If conference space is not constructed in the Heritage Center, then the other building spaces will need to be adjusted accordingly for the conference spaces netted out of their programs.

Space Needs

Space	Existing Usable Area	Program Net Area	**Program Usable Area	Program Gross Area	Program FTE	**Design Usable Area	Design Gross Area
Executive Office Building	83,546	59,032	83,500	120,240	266	83,500	120,555
State Insurance Commissioner	47,083	33,592	48,037	69,173	191		
State Treasurer	15,075	12,396	17,726	25,526	54		
Office of Financial Management	21,388	15,612	21,388	30,798	21		
* Shared Conference Center Area (Reallocation from Executive Office Area Above to Heritage Center)	NA	-2,568	-3,651	-5,257	NA		
Heritage Center	79,748	112,839	158,589	226,984	283	158,025	225,921
Arts Commission	5,130	3,753	5,142	7,353	20		
Common Areas Between Archives and Library	0	11,011	15,085	21,572	20		
Governor's Office of Indian Affairs+Hispanic Affairs+ African-American Affairs+Asian-Pacific American Affairs+Citizens Commission for Salaries for Elected Officials Combined Office	3,552	2,449	3,355	4,798	18		
Heritage Center Space	0	12,226	16,750	23,952	10		
Office of Financial Management	2,786	2,034	2,786	4,095	101		
State Archives	24,923	31,103	42,611	60,934	34		
State Library	32,843	40,414	55,367	79,175	80		
Conference Center & Auditorium	0	6,200	8,494	12,146	NA		
Campus Café	2,514	3,650	5,000	7,200	NA		
Conservatory	8,000	NA	4,000	5,760	NA		
General Office Building	179,195	113,864	172,677	245,594	931	169,958	243,499
Commission on Judicial Conduct	4,275	3,215	4,405	6,254	8		
Conservation Commission	3,200	1,897	2,599	3,690	15		
Department of General Administration	60,351	42,835	58,684	83,331	293		
Office of Financial Management	4,521	3,300	4,521	6,646	101		
Puget Sound Action Team	6,398	5,719	7,835	11,126	27		
Retail Space	3,354	NA	3,000	4,290	NA		
Washington State Patrol	82,700	59,428	81,416	115,611	485		
Support Areas							
* Shared Conference Center Area (Reallocation from General Office Area Above to Heritage Center)	NA	-4,162	-5,702	-8,097	NA		
Department of Printing	1,662	1,632	2,236	3,175	2		
GA Support Spaces	10,599	NA	10,599	15,157	NA		
Loading Dock & Receiving	2,135	NA	3,084	4,410	NA		
Total All Buildings	342,489	285,735	414,766	592,818	1,480	411,483	589,975
Parking Garage	378	NA	500	175,000	NA	503	188,856
Cars			Cars			Cars	
Total All Buildings + Parking	342,489	285,735	414,766	767,818	1,480	411,483	778,831

** Note: Slight differences between usable program and usable design can be accommodated in next level of design development.

* Shared Conference Space Allocation

		Program Net Area	Program Usable Area	Program Gross Area	Remarks
Executive Office Building					
State Insurance Commissioner	NA	1,848	2,643	3,805	Conf Rm 1400 SF+Training 448 SF
State Treasurer	NA	360	515	741	Conference Rm 360 SF
Office of Financial Management	NA	360	493	631	Conference Rm 360 SF
General Office Building					
Arts Commission	NA	0	0	0	
Commission on Judicial Conduct	NA	0	0	0	
Conservation Commission	NA	0	0	0	
Department of Archeology and Historic Preservation	NA	0	0	0	
Department of General Administration	NA	3,622	5,324	6,815	GA Support Auditorium 2572 SF +Conf Rm 1050 SF
Freight Mobility Strategic Invest. Bd	NA	0	0	0	
Heritage Center Combined	NA	0	0	0	
Off of CAA,CAPAA,CHA,GAIA,SC	NA	0	0	0	
Washington State Patrol	NA	540	794	1,016	Conference Rm 540 SF

Architectural Systems

General Introduction

The following section describes the evolution of the architectural and urban design thinking for the Executive Office Plaza/Heritage Center. A clear articulation of guiding design principles, along with an understanding of the Capitol Campus's rich heritage has given shape to the form of the buildings and their architectural character.

Guiding Design Principles

Two important documents were used to establish the guiding design principles.

1. The Capitol Campus Design Advisory Committee's Design Opportunity Recommendations served as a guide for urban design and contextual issues.
2. Washington State's Capitol Campus Master Plan (2005) served as a guide to open space and building design criteria.

CCDAC's Design Opportunity Recommendations

Purpose: "To encourage Design Excellence"

Urban Design Issues (to be addressed)

- View corridors
- Axis
- Edges/Buffers
- Transition Zones
- Topography
- Pedestrian Circulation
- Vehicular Circulation
- City Zoning
- City Development Plans
- Arrival Sequence
- Service Access
- Parking/Transportation

Contextual Issues

- Respect the architectural style and scale of the west campus
- Provide a transition in scale and massing to the city (project sites should have no "back")
- Avoid creating a wall between Capitol Campus and downtown Olympia
- Enhance the hierarchy of campus open space
- Building should reflect its role within campus context (Leg Bldg. is the primary "monument")
- Evaluate various approach sequences
- Evaluate role and function of city streets (street vacation?)
- Identify relocation options for displaced functions (GA Bldg, conservatory, etc.)
- Identify existing features which are sacrosanct (not to be impacted – view of capitol dome, etc.)

Program Issues

- Buildings should reflect the public to private hierarchy (on exterior and interior)
- Public space should foster government and community life
- Identify site parking capacity (identify available existing parking)
- Identify security issues
- Evaluate transportation needs/systems

Concepts

- Create appropriately scaled buildings related to existing buildings and open space
- Incorporate existing hierarchy of campus organizing elements
- Develop sequenced exterior spaces
- Establish a hierarchy of campus open space
- Create a “public face” for each program component (i.e., Heritage Center, Exec. Office)
- Reflect the public/ceremonial to private function sequence
- Develop a formal edge to campus central space
- Relate to views, vistas and axes
- Reflect the architectural thinking of our time (should not merely mimic historic style)

Capitol Campus Master Plan (2005)

Design

- Be consistent with the historical architectural context (i.e., the original capitol grouping)
- Complement the classically inspired spatial relationships between buildings

Capitol Campus Open Space

- Capitol Campus is created by buildings and landscaped open spaces between them
- Extend the concept of a “building group” (with strong spatial and design relationships)
- Goals:
 - Reinforce grandeur of natural setting
 - Enhance view corridors
 - Visually link different areas
 - Develop campus perimeters (visual and physical transition to the adjacent neighborhoods)
- Historical capitol group - respect north/south axis
- Campus lacks definition at the perimeter (needs definition at entry points)
- Street level retail or pedestrian uses along Capitol Way (to ensure street vitality)

Design at the Capitol Campus

- The aesthetic quality of state owned office buildings shall...
 - Possess a dignified and formal character
 - Have a sense of strength and permanence
 - Reflect the symbolic themes of pride in statehood and citizenship
- Goals:
 - Keep original capitol group intact and the Legislative Building as the dominant architectural element
 - New state buildings are of their era

Design Guidelines

General:

- All new buildings recognize the Legislative Building as the capitol's predominant feature

Materials:

- Historically compatible
- Color/texture of Wilkinson stone
- Limit large areas of metal/glass
- No new contrasting materials

Color:

- Light sandstone colors
- No contrasting paint or materials

Scale:

- Maximum height – height of O'Brien, Cherberg and Insurance buildings
- Approximately 4 levels above grade (60 feet high)

Siting:

- Attention to axis between buildings
- Consider distance/volume between buildings
- Respect existing landscape patterns
- Create pedestrian scaled open space

Building Proportion:

- Geometric proportion in harmony with west campus buildings

Architectural Style:

- Blend with existing "style"
- Do not imitate
- Be representative of the time constructed
- Embody the spirit of west campus without copying

Additional Design Principles

- Strengthen the capitol's connection to Olympia's downtown core
- Create a campus that is world class in its design achievements
- Define the campus edge (use building scale/design to ease transition to neighborhoods)
- Create campus gateways
- Provide visitor destinations
- Locate community/public uses along northern edge of campus (public transit, convenience to downtown)
- Locate lower public use facilities on southern edge of campus (minimize neighborhood impacts)
- Establish formal axes at campus core (Olmsted, Wilder/White legacy)
- Reduce visual impact of parking wherever possible
- Locate new state office and visitor facilities in relation to public open spaces

Historical Analysis

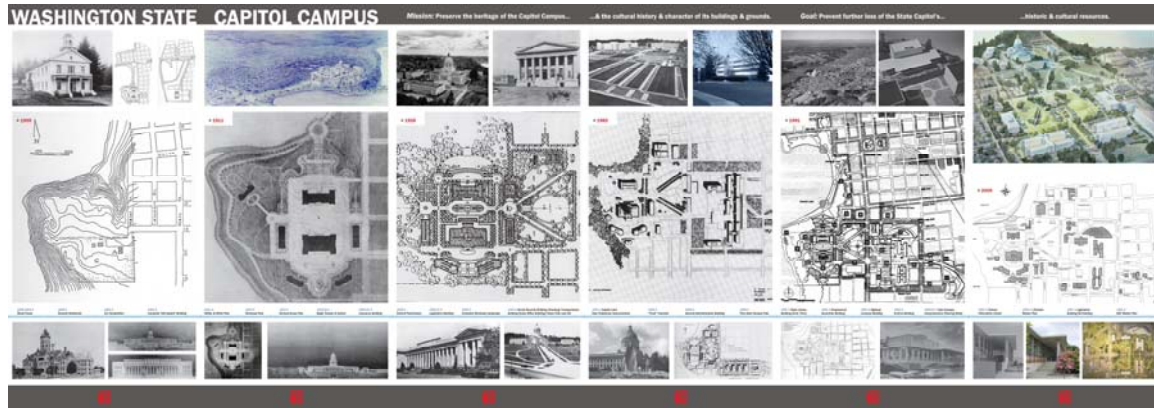
One of our main goals in this predesign process was to respect and preserve the rich heritage of the Capitol Campus.

To understand the legacy of the campus, we studied Wilder and White's original plan of 1911, the Olmsted Brothers plan of 1928, and subsequent master plans: Paul Thiry's 1958 plan, Walker/McGough/Foltz's 1970 plan, John Graham's 1982 plan, ZGF's 1991 plan and the current 2005 master plan.

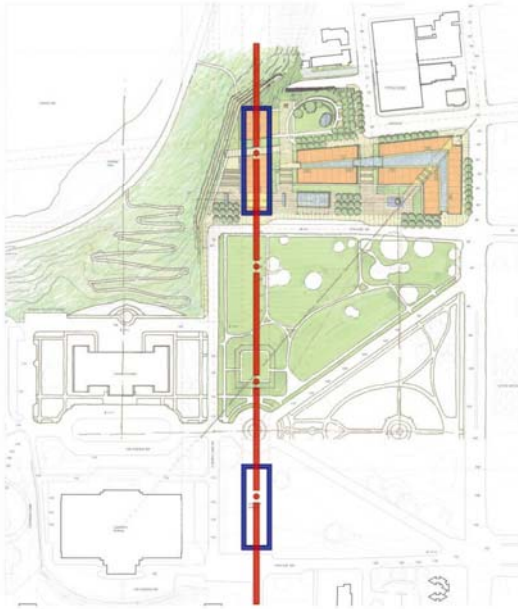
Over the last 50 years many of the same important issues have been repeatedly discussed and debated that directly relate to this project's scope:

- New building locations on the west campus
- Open space preservation and enhancement
- Connections down to Heritage Park and Capitol Lake
- The conservatory's location on campus
- The connection of 11th Avenue to Cherry Lane
- Parking garage locations and visibility

With an understanding of the past, this predesign looks to the future and addresses many of the same issues in a way that will preserve the heritage of the Capitol Campus for future generations.



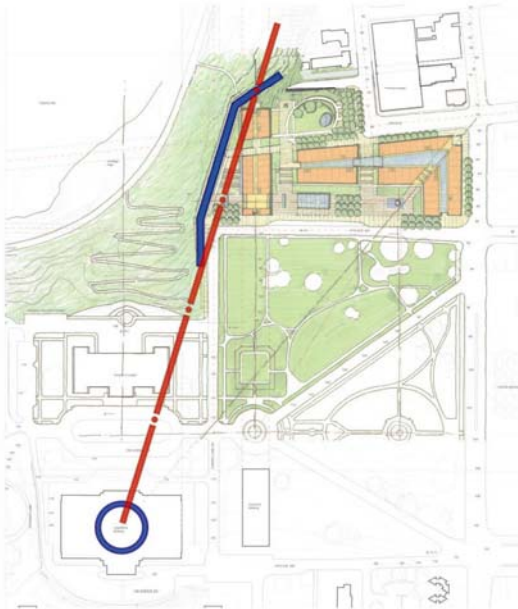
Urban Design Diagrams



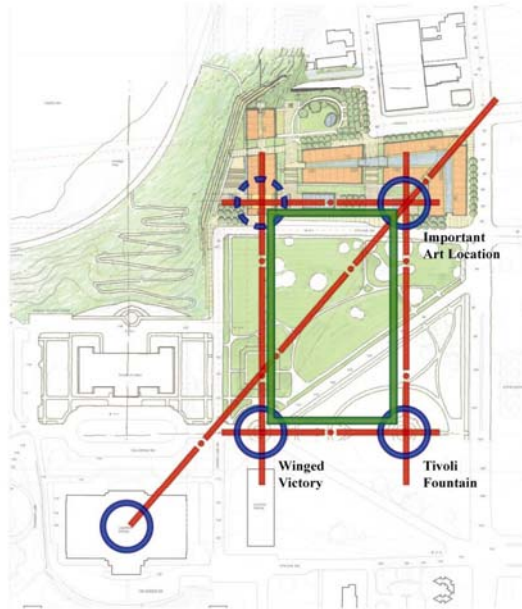
Locate the Executive Building on axis with the Insurance Building.



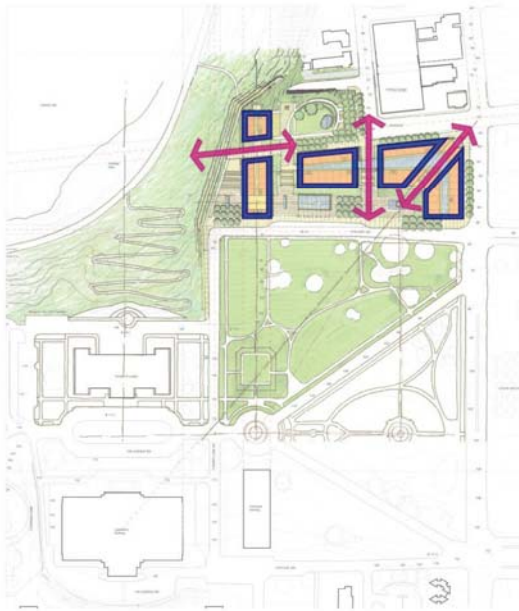
Create a corner entry on axis with the Capitol Dome.



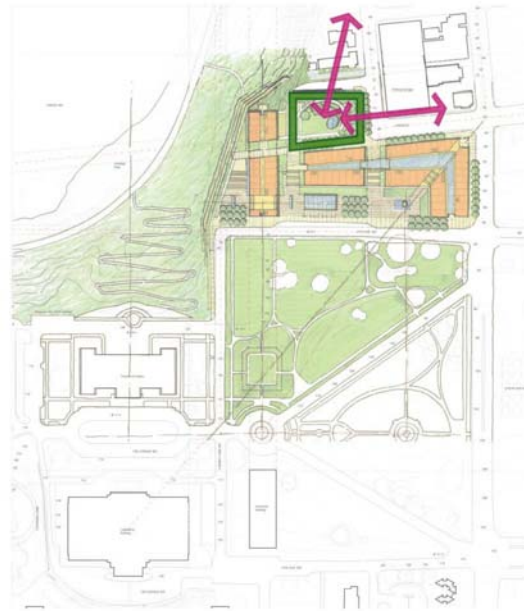
Align the Olympic Terrace with the Capitol Dome.



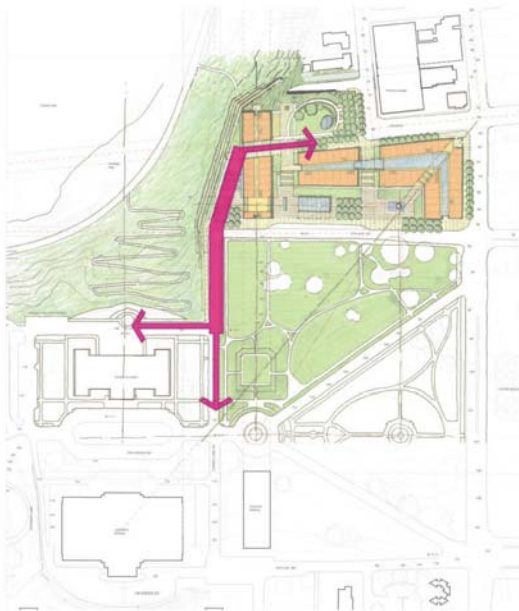
Grid analysis reveals a "Golden Rectangle" proportion.



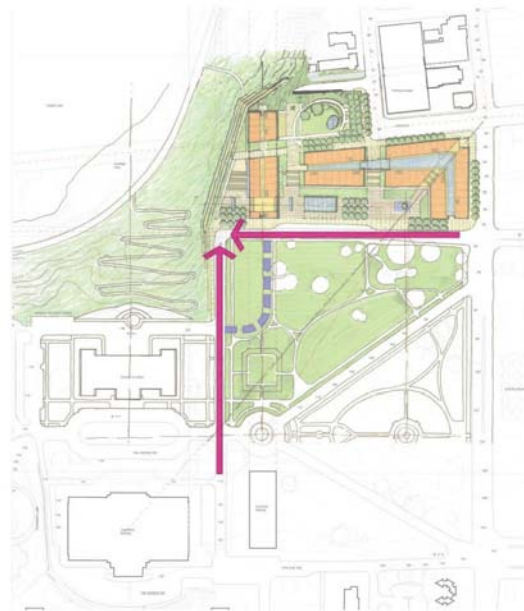
Create gateway portals through the buildings, from the city to the campus.



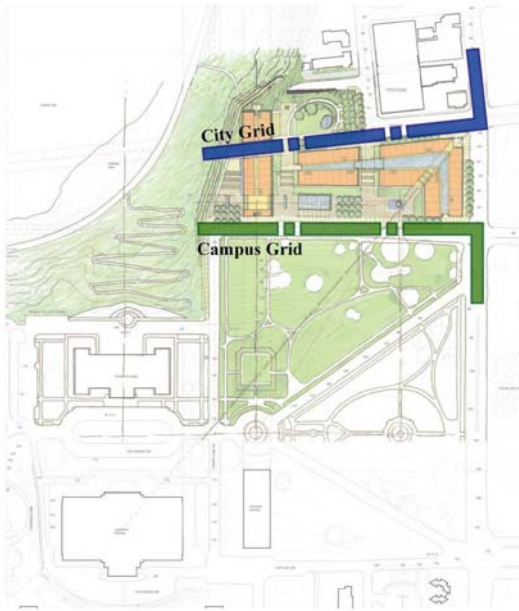
The North Green becomes a transition buffer / amenity to the city.



Connect back to the main campus with a promenade along the bluff.



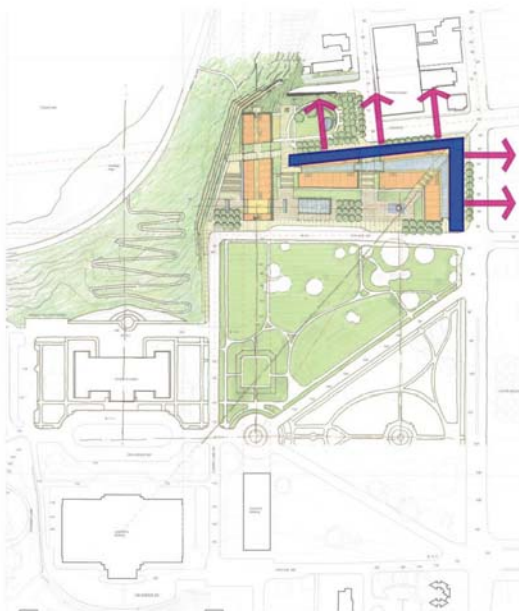
Connect 11th Avenue to Cherry Lane and relocate the conservatory.



Let the building mediate the city and capitol campus grids.



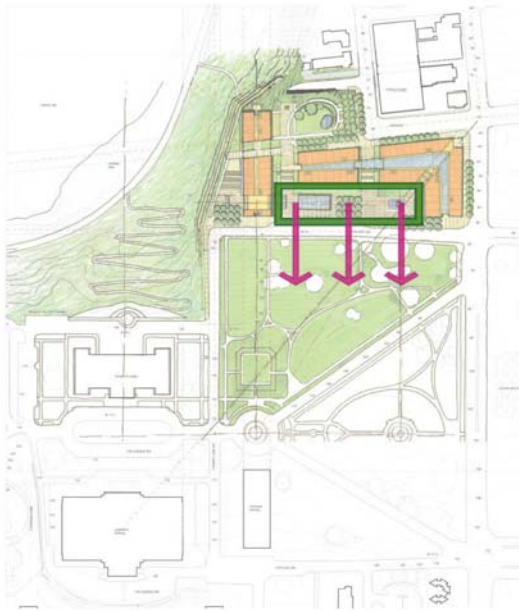
Hold the urban edge along Capitol Way and Union Street.



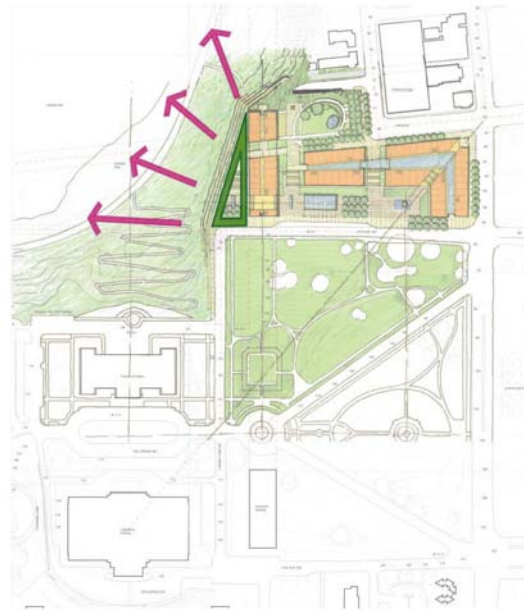
Step the buildings down in scale toward the City of Olympia.



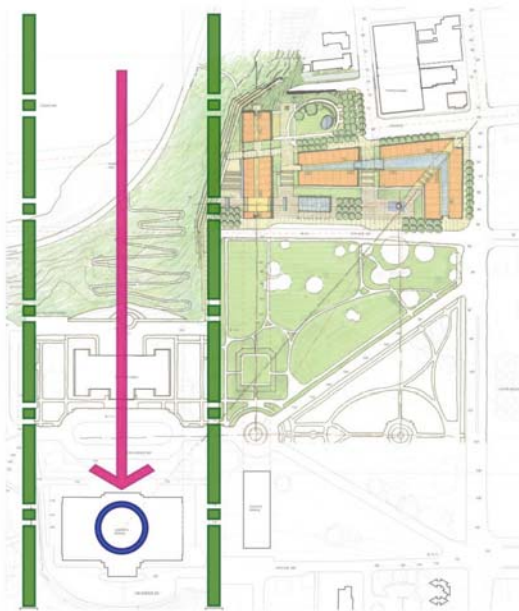
Consider the height and density of future development along Capitol Way.



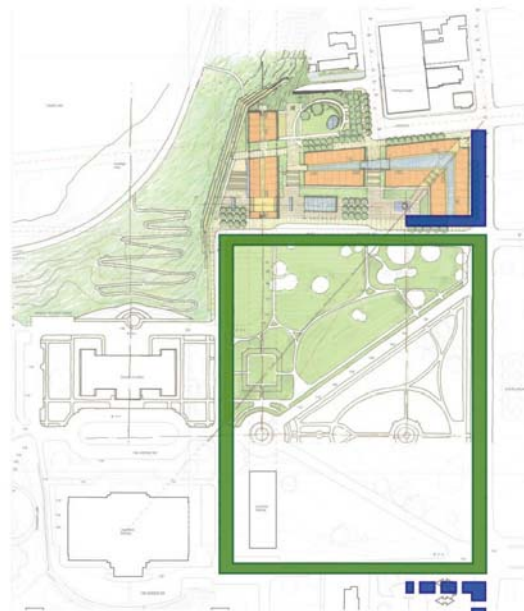
Heritage Plaza is framed by the new buildings and faces south towards the Olmsted Lawn.



Olympic Terrace overlooks Heritage Park and Capitol Lake.



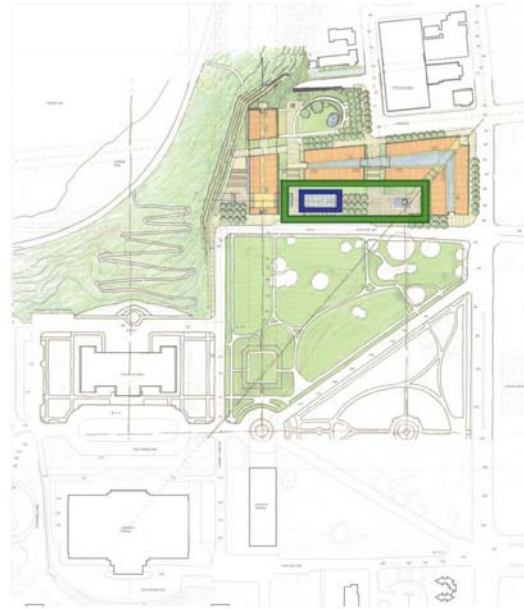
Preserve the view corridor from the north to the original Capitol Group.



Anchor the northeast corner of the Olmsted Lawn.



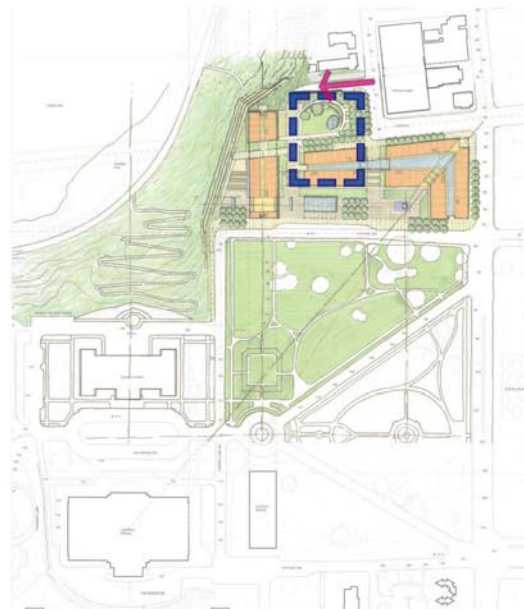
Stabilize the hillside with Olympic Terraces.



The Heritage Center entry pavilion is set within Heritage Plaza.



Provide below grade parking underneath the North Green.



Loading and parking access from Columbia Street.

Executive Office Building

The Executive Office Building is a five-story, 120,555 square-foot building built adjacent to the hillside above the new Heritage Center. The building would command impressive views of Capitol Lake to the west and the Heritage Plaza to the east.

The building would house primarily elected executive offices. The Executive Office Building's prominent location, expansive view and the quality of materials would provide space equality appropriate for these elected officials. The primary public entry would be the level 94 (11th Avenue) lobby. It runs the full width of the building and can be entered from Heritage Plaza to the east or from the Olympic Terrace to the west.

The Executive Building is centered on a north/south axis that is the centerline of the Insurance Building. This relationship extends the formal geometry of the original capitol group north to engage the new complex of buildings. The height, width and length of this building are similar to the Insurance Building to further reinforce the linkage. The interior organization is also similar to the Insurance Building. A 10-foot-wide grand north/south corridor will run the length of the building accessing office areas to east and west. On the top floor the grand corridor will be sky lit. A continuous five-foot wide terrace will run around the perimeter of the building.

The Executive Office Building would terminate the axial view down Union Street as you approach the Capitol Campus from the east. A 50-foot-wide by two-story high portal in the building is placed on axis with Union Street to act as visual gateway and welcoming gesture to the community. This portal acts as a gateway to and from Olympic Terrace along the edge of the bluff.

The placement of the Executive Office Building on axis with the Insurance Building helps frame and respect the view of the original Wilder and White capitol group from Capitol Lake.



Executive Office Building

Heritage Center

The Heritage Center is a four-story, 225,921-square-foot building built into the hillside overlooking Capitol Lake. The Heritage Center would house the Washington State Capitol Museum, café, auditorium, conference center, Washington State Library, Washington State Archives and offices. A relocated and reinvented conservatory would also be a part of the Heritage Center.

The primary public entry to the Heritage Center is from a glass entry pavilion located in Heritage Plaza at level 94 (on 11th Avenue). Entry also occurs directly from visitor parking at level 64 (on Columbia mid-way between Union and 8th Avenue). The Washington State Library and Washington State Archives will also have controlled entries from the parking garage at levels 34 and 49. Heritage Plaza faces the Olmsted Green to the south and is defined by the General Office Building to the north and east and the Executive Office Building to the west.

From the Heritage Center entry pavilion a universally accessible walkway and elevators take you down to a two-story-high concourse that runs east/west connecting the entry to the west hillside terraces. The universally accessible concourse provides access to the museum, the main public auditorium, the café and the conservatory along the terraced edge. The glass mosaic mural and seal from the GA Building could be displayed in the concourse. It would also serve as space for temporary art exhibits. The concourse is sky lit from above and terminates at a two-story high glass wall overlooking Capitol Lake.

A north/south atrium continues the spatial progression down to level 19, which connects directly to Heritage Park and Capitol Lake. Skylights will fill the atrium with natural light. A fully ADA-accessible route from the upper Capitol Campus to Heritage Park and Capitol Lake is provided within the Heritage Center.

Library collections, archives and storage areas are located east of the atrium into the hillside where natural light is limited. Office areas are located west of the atrium adjacent to the building's stepped terraces providing access to natural light and views of Capitol Lake. The building is carefully positioned so it would not interfere with the view of the original capitol group buildings from Capitol Lake. The terraces are pulled tight into the hillside and are aligned on axis with the capitol dome providing dynamic views back to the Legislative Building. Each terrace is fully accessible and has a continuous planter along the edge to cover the building in "green." The conservatory would have a glass-enclosed terrace along its length.



Heritage Center

General Office Building

The General Office Building is a five-story, 243,499-square-foot building on the 1063 block, a portion of the current GA site, and the adjacent parcel west of Columbia Street. The building holds the urban edge along Capitol Way and Union Street but is set back from the street approximately 20 feet to provide a generous sidewalk and green space. The structure also creates the northern and eastern edge of Heritage Plaza which faces south to the Olmsted lawn.

A linear sky lit atrium runs the length of the building and provides daylight and the potential for natural ventilation throughout the building. Office loft depths are in the 30-foot to 45-foot range. It is extremely flexible in its layout and could accommodate many diverse office functions. The building's atrium mediates between two distinct grid systems. The city of Olympia's street grid (i.e., Union Street) is rotated 5 degrees off the north/south Capitol Campus grid. The atrium space becomes wedge shaped so the south face of the building is on the Capitol grid and north face can parallel Union Street. This allows the building to be sensitive to each urban edge condition.

The street level use along Capitol Way and returning 100 feet along Union Street would be some form of retail sympathetic to the project goals and mission. The building also acts as a gateway from the city of Olympia to the Capitol Campus. A 60-foot wide by 30-foot high portal is created on axis with Columbia Street to act as a visual gateway to Heritage Plaza and the entire Capitol Campus. The upper three floors of the building connect above the portal.

Another important gateway is created diagonally to the southwest from the corner of Capitol Way and Union Street. A two-story high entry plaza is created at the corner that leads into the five-story-high atrium. A diagonal stair or "stramp" (a universally accessible pathway) and elevator then move up to the Heritage Plaza level and are on axis with the capitol dome.

The building's top floor steps back 20 feet on the north and east along Union Street and Capitol Way to help reduce the scale of the building edge facing the city. A 5-foot terrace continues along the east and south face of the rest of the top floor.



General Office Building

Parking Garage

A below-grade parking garage with 503 stalls is provided underneath the north green. The garage is a combination of employee/staff parking and visitor parking. A screened truck loading dock area is provided within the garage to service the combined needs of the Executive Office Building, the Heritage Center and the General Office Building.

All ingress and egress from the garage for parking and loading is from a sloped ramp to Columbia at the northern edge of the site. The access point to the garage is on Columbia Street approximately 150 feet north of Union Street. Visitor parking on level 64 has direct access to the Heritage Center. Parking on level 49 has direct access to the State Archives and to the State Library at level 34. With the demolition of the existing garage on the 1063 block and removing surface parking at GA, the net increase in parking stalls is 119.



Below Grade Parking Garage

Building Exterior

Building Height

All buildings facing the Olmsted lawn will be approximately four stories above adjacent grade (+/- 60-feet), i.e., no building will be taller than the base of the Legislative Building, the Insurance Building, the Cherberg and O'Brien buildings or the Temple of Justice – as defined by Capitol Campus Master Plan (2005).

Scale/Proportion

The building exteriors will be modulated and proportioned in relation to existing structures. The base of the Legislative Building, the Temple of Justice and the Insurance Building all have a distinct base, middle and top expressed on the exterior. The first floor is expressed as the “base.” The second and third floors are grouped together acting as the “middle” and the fourth floor is pushed back slightly to lower the precluded height to create a terrace and give a distinctive “top” to the building.

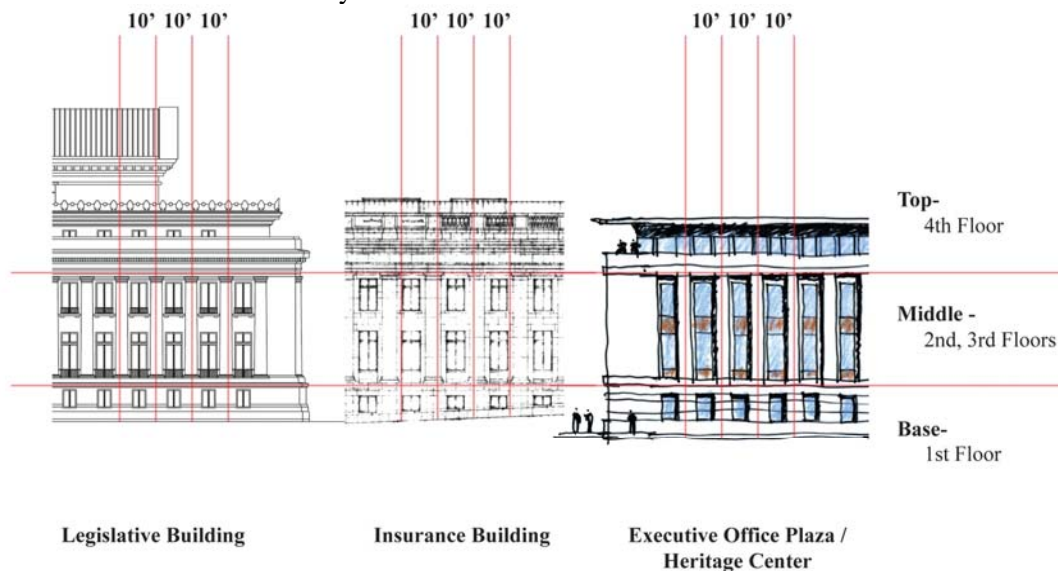
The exterior window modulation is based on a 10-foot center-to-center dimension as are the significant existing buildings.

Exterior Materials/Detailing

The primary exterior material would be Wilkinson sandstone to match the existing buildings on the west campus. The exterior material palette would be simple and restrained, essentially three materials – Wilkinson sandstone, bronze colored aluminum and clear glass. All aluminum panels and mullions would be bronze colored to match bronze metal elements on the existing buildings.

The buildings will generally have a “punched” window expression to relate to existing buildings. However, certain elements such as the entry to the Heritage Center, atrium skylights and the fourth-floor terrace walls will be a glass curtain wall.

The design intent for the building exterior is not to copy the existing buildings, but to respect their scale, proportion and materiality. They would be modern, 21st-century interpretations detailed and executed in a modern way.



As it steps down the slope, the Heritage Center Building will blend with the hillside. Continuous planters run along the edge of each terrace to cover the facades with greenery. Glass areas are recessed for sun shading.



The level of interior finish for the three buildings would be commensurate with the typical public space and office interiors found on the west campus. The Executive Office Building would have the highest level of finish, similar to the Insurance Building.

Public Spaces – Entry, lobbies, main corridors, etc.

Floors – Stone

Ceiling – Coved and soffited GWB with recessed acoustical wood panels

Walls – painted GWB with wood base

Floors – Carpet tile over raised floor

Ceilings – Acoustical ceilings with some perimeter GWB soffits

Heritage Center

Public Spaces – Entrance pavilion, grand concourse, atrium

Walls – combination of stone panels, wood panels and veneer plaster

Floors – Terrazzo

Ceilings – GWB and acoustical wood ceiling

Office Space

Walls – painted GWB with wood base

Floors – Carpet tile over raised floor

Ceilings – Acoustical ceilings with some perimeter GWB soffits

Special Areas

Auditorium – Carpeted sloped floor with fixed seating.

Conservatory – Glass roof at terrace edge, sealed concrete floor, veneer plaster and wood panel walls, metal panel ceiling

Archives – GWB walls with vinyl base, acoustical ceilings, carpeted floor

Café – Terrazzo floors, acoustical wood walls, and GWB and acoustical wood ceilings.

General Office Building

Public Spaces – Entry lobbies, atrium, main corridors.

Walls – Wood panels, glass panels, GWB

Floors – Terrazzo

Ceilings – Glass skylight and metal panels, or acoustical wood ceilings

Office Space

Walls – painted GWB with vinyl base

Floors – Carpet tile over raised floor

Ceilings – Acoustical ceilings with some GWB soffits

Universal Design

The Heritage Center, Executive Office Building and General Office Building should embrace Universal Design concepts. The accessible features of this project should be transparent, inclusive and attractive. The focus of Universal Design is not specifically on people with disabilities, but all people, and it should be an essential consideration in the design.

Principle 1 Equitable Use The building's design should make it equally usable by everyone. Thus, the means by which people use the building should be the same (e.g., providing one entry to the building that works equally well for everyone). The buildings must never employ means that isolate or separate any group of users or enable one group over another.

Principle 2 Flexible Use The building's design should allow people to use its design features in more than one prescribed way (e.g., providing a countertop orientation map that is viewable from either a seated or standing position). Features should accommodate both right- and left-handed use and be adaptable to the individual user's pace.

Principle 3 Simple and Intuitive The building should make it easy for everyone to understand the purpose of each design feature and how to use it (e.g., providing washroom lavatory faucets

that make their method of operation readily apparent and relatively easy). Wayfinding should be intuitive and obvious.

Principle 4 Perceptible Information The building should provide all essential information in a variety of modes (e.g., written, symbolic, tactile, verbal) to ensure effective communication with all users regardless of their sensory abilities. The information provided must be presented with sufficient contrast to surrounding conditions so that it is distinguishable from its context and decipherable in all its various modes of presentation.

Principle 5 Tolerance for Error Ideally, the building's design should eliminate, isolate or shield any design features that could prove hazardous or inconvenient to any user. The building's design should anticipate accidental or unintended actions by any user to minimize inconvenience and protect users from harm.

Principle 6 Low Physical Effort the building's designs should select and employ features that require little or no physical force to use them (e.g. opening a window or providing a smooth travel surface with minimal slope along the path of travel leading to the entrance).

Principle 7 Size and Space for Approach and Use A building's design features should provide an adequate amount of space that is appropriately arranged to enable anyone to use them (e.g. benches w/arms for transfers from wheelchairs; library stacks that do not require backing up to exit.)

Structural System Description

Applicable Codes

Building Code: International Building Code (IBC), 2006 Edition, including all referenced material standards and State of Washington amendments
ASCE 7: American Society of Civil Engineers, "Minimum Design Loads for Buildings and Other Structures," 2005 Edition

Loads

The structure will be designed for the following live loads:

Corridors & Lobbies at First Floor	100 psf
Offices and Corridors	80 psf (includes partitions)
Heritage Center	150 psf
Archive and Library Stack Areas	300 psf
Storage Rooms	125 psf
Mechanical Rooms	125 psf or equipment weights, if greater
Parking	40 psf
Roofs	25 psf or snow load plus drifting, if greater

Wind loads shall be in accordance with the Building Code. Assumed wind criteria are: Three-second gust wind speed of 85 mph, Exposure B, and Importance Factor of 1.0.

Seismic loading for new construction shall be in accordance with the Building Code. Assumed seismic criteria are: Seismic Use Group I, Seismic Design Category D, and Importance Factor of 1.0. The site class and the spectral response coefficients will be determined by the Geotechnical Engineer. The analysis of the existing building assumed the following: Site Class D, $S_s = 1.18$, and $S_1 = 0.42$.

Structural Materials

Concrete:

Foundations and Slab on Grade: Normal weight, $f'_c = 4,000$ psi

Floor Framing, Columns, and Shear Walls: Normal weight, $f'_c = 5,000$ psi

Reinforcement: ASTM A615, Grade 60

Steel Framing:

Wide Flange Shapes for Columns and Beams: ASTM A992, Grade 50

Rectangular Tubes: ASTM A500, Type B, Grade 46

All Other Steel: ASTM A572, Grade 50

High Strength Bolts at Connections: 7/8-inch diameter ASTM A325

Anchor Bolts: 3/4-inch diameter ASTM F1554

Welding per AWS D1.1

Metal Deck and Shear Studs:

Composite Steel Decking: 3-inch deep Type W, 20 gage minimum

Composite Shear Studs: 3/4-inch diameter automatically-end-welded headed studs

Structural Systems

The existing GA Building will be demolished and replaced with a below grade parking garage, the Heritage Center, which will be below grade and connect to the lake level, an executive office building above the Heritage Center, and an office building that will be partially above the parking garage. The Heritage Center structure will retain the soil pressures due to the elevation difference between the lake and the upper ground level and will replace the function of the existing temporary shoring system retaining the slope.

The foundation system will consist of spread footings or augercast concrete piles that transfer all vertical and lateral forces to the ground. The allowable soil bearing pressure and pile capacities will be determined by a geotechnical engineer.

The slabs-on-grade will consist of a 4-inch-thick cast-in-place concrete slab. The sub-base will be provided according to the geotechnical engineer's recommendations. If the geotechnical engineer indicates a potential for ground water beneath the ground-level slabs, the slabs-on-grade will require an under-slab drainage system. It is anticipated that an under-slab drainage system will be required at the lowest level of the Heritage Center because of its proximity to Capitol Lake.

The retaining walls in the Heritage Center and parking garage will consist of approximately 12 inch to 28-inch-thick cast-in-place concrete walls that will vary by depth. The soil pressures due to hydrostatic and seismic forces will be determined by the geotechnical engineer. The hydrostatic and seismic loads due to the retained earth are expected to be very large at the base of the Heritage Center. Temporary shoring will be required to construct the below-grade levels at the east, north, and south sides of the excavation.

The typical framing bay in the above grade offices will be 20 feet by 35 feet. A 9" mild reinforced one-way concrete slab will span between mild reinforced concrete beams approximately 28 inches deep at 20 feet on center. These beams will be supported by approximately 18"x18" concrete columns. At atria, the beams will cantilever approximately 5 feet to support the corridor. Pedestrian bridges, roof framing above the atria, and the like will be framed in structural steel.

The typical framing bay in the Heritage Center will also be 20 feet by 35 feet. A 12" mild reinforced one-way concrete slab will span between mild reinforced concrete beams approximately 32 inches deep at 20 feet on center. These beams will be supported by 24" x 24" to 30" x 30" concrete columns.

The typical framing bay in the below grade parking garage will be 20 feet by 60 feet. A 9" mild reinforced one-way concrete slab will span between mild reinforced concrete beams approximately 42 inches deep at 20 feet on center. These beams will be supported by approximately 24"x24" concrete columns.

Lateral forces due to seismic, wind, and unbalanced soil pressure will be resisted in the buildings by concrete shear walls. The lateral loads will be carried by the floor diaphragms to the shear walls and then delivered to the foundations in proportion to their ability to resist lateral deformation. The concrete shear walls will all be continuous from the roof to the foundation. The thickness of the shear walls will vary depending on the distribution and lengths of the walls and the height in the buildings. The shear walls in the above grade office buildings will be distributed throughout the buildings around circulation functions (corridors, stairs, elevators, restrooms, etc.) and will be approximately 16-20 inches thick. The shear walls in the below grade parking levels will be located to work with the parking layouts and will be approximately 16-20 inches thick. The shear walls in the below grade Heritage Center will be located in a regular rhythm to resist the large unbalanced soil pressures and will be approximately 20-24 inches thick.

Mechanical Systems Description

Design Criteria

- ✓ 2003 International Building Code
- ✓ 2003 International Mechanical Code
- ✓ 2003 International Plumbing Code
- ✓ 2003 International Fire Code
- ✓ 2003 Washington State Energy Code
- ✓ Miscellaneous:
 - National Fire Protection Association (NFPA), Codes, Standards, Recommended Practices, Manuals and Guides
 - ANSI/NFPA 70, "National Electrical Code"
 - Department of Labor, OSHA, Occupational Safety and Health Standards
 - National Safety Council, "Accident Prevention Manual"
 - SMACNA Seismic Restraint Manual: Guidelines for Mechanical Systems; dated 1998.
- ✓ General Administration Facilities Design Guidelines & Construction Standards

Design Conditions

1. Environmental Conditions:

Design Temperatures	Heating	Cooling
Outdoor Conditions	22 F	85 F DB/66 F WB
General Occupied Space- Offices, Conference Rms, Meeting halls	70 F DB	Air Condition to 75F/no humidity control; ranges from 30% to 70%
Archives, Library Collections	-	70FDB \pm 4F 50 %RH \pm 5%
Mechanical & Electrical Rms	55 F DB	Ventilate using outdoor air to 10 deg. F above ambient (95F)
Communication Rms, (MDF –Server rooms) And Elevator Equip Rm	70 F DB	Air condition to 72F DB no humidity control - ranges from 30% to 70%

- Air Filtration: 2-inch thick pleated media cartridge pre-filters with an average efficiency of 30% on ASHRAE Test Standard 52, 85% final filters for general office spaces a 95% efficient final filters for archive museum spaces. During design investigate the need for Gas Phase filters.
- Ventilation: To insure that good indoor air quality is maintained for the occupants, a minimum of 20 cfm/person of outside air will be introduced into occupied spaces via the air handling systems.

Exterior Envelope Requirements

- General: New Components of the building envelope will be insulated to meet or exceed the Washington State Energy Code as applicable to existing buildings.

Mechanical Systems - General

- In general, the Mechanical systems design will comply with the requirements of the General Administration Facilities Design Guidelines & Construction Standards. The following information describes features and systems which are unique to this project.
- A minimum of four feet of clearance will be provided around all mechanical equipment wherever possible. As a bare minimum, clearance will be provided on one side of each air handling unit and equipment for maintenance access and coil removal. In this case, all access doors into the units will be specified on one side.
- Noise, vibration and seismic control will be provided for the appropriate Mechanical Systems. Sound attenuation requirements will be as recommended by the Acoustical Consultant. Pending an acoustical analysis, it is assumed that sound attenuators will be provided at the outlet of air handling unit supply fans and at the inlet of return fans.
- Identification of ductwork, piping, valves and equipment shall be provided.
- Insulation of Mechanical Systems will include outside air and supply air ductwork, domestic hot water/cold water/hot water circulation piping, steam and condensate piping, and heating water piping. The insulation will be in accordance with the Washington State Energy Code.

6. Duct work will be insulated per the energy code with external fiberglass duct wrap. Duct liner will not be used for thermal insulation nor for general sound attenuation. Air handling unit casings will be 4-inch thick construction with fiberglass lining and an acoustical perforated metal liner.
7. Testing and Balancing of the Air and Water Systems will be accomplished by an Agency certified by the Associated Air Balance Council or the National Environmental Balancing Bureau specializing in Air and Water System Balancing. The A-E drawings will state the final design System capacities for reference by the Contractor and use by the maintenance personnel.
8. All Mechanical Systems will be commissioned as part of the requirements of the construction contract.

New Air Conditioning Systems For Executive Plaza

1. General:

The new HVAC systems will be provided to air condition Executive Office Plaza (583,000 gsf). Eleven variable air volume systems consisting of eleven air handling units (AHU-1, AHU-2, AHU-4, AHU-7 thru AHU-14), medium velocity supply ductwork, zone terminal units with heating coils, low velocity displacement air distribution system, low velocity return air return ductwork and return/exhaust fans. Each supply air handling unit will include mixing plenum, pre-filter, final filter, heating coil, cooling coil and plenum supply fan, sound attenuator, return fan and controls. Three constant volume systems consisting of three air handling Units (AHU-3, AHU-5 & AHU-6) zone heating coils, low velocity air distribution system, low velocity return air return ductwork and return/exhaust fans. These units will be equipped humidifiers and dehumidification controls so that the Archive areas and Library Collections are controlled to precise temperature and humidity levels. Air Handling Units are itemized below including location. A kitchen dishwasher exhaust fan, grease hood exhaust fan, and matching make-up air unit will be provided to match new cafeteria program.

To improve and maintain a healthy environment, while reducing energy consumption/costs, a displacement supply system is planned. Occupant supply air control will also be provided.

2. Conference Rooms and Meeting Rooms:

To improve indoor air quality and reduce energy consumption carbon dioxide sensors will be provide to regulate outdoor air quantity delivered to heavy populated areas.

3. Non-recirculating Building Exhaust:

In compliance with Washington State Ventilation Codes and to improve indoor air quality toilet rooms, janitor rooms, and copier rooms will be served by a central non-recirculating exhaust system.

4. Mechanical and Electrical Rooms:

To maintain satisfactory equipment operating environment the Mechanical Room(s) and main Electrical Room will be ventilated with outside air.

5. Data/Telephone Equipment Room (MDF Room) and Server Rooms

The Data/Telephone Equipment Room (MDF Room) and Server Rooms will be served by separate fan coil units with chilled water coils that will operate continuously independent of the central building air handling systems.

6. Parking Garage:

A ventilation system (six vertical vane axial exhaust fans, 46,900cfm each) will be provided to maintain adequate environment within the buried parking structure. To reduce energy consumption/costs a carbon monoxide (CO) monitoring and control system will be provided.

Name	Service	Location	Size/Type	Cooling Load
AHU-1 AHU-2	South Executive, Library & Archive Offices	South Mech. Fan Room, Level 49	46,000 CFM each VAV	130 Tons each
AHU-3	Archives	South Mech. Fan Room, Level 49	4000 CFM CV	7 Tons
AHU-4	North Executive, Library & Archive Offices	North Mech. Fan Room, Level 49	48,000 CFM VAV	130 Tons
AHU-5	Library Collections	North Mech. Fan Room, Level 49	18,000 CFM CV	30 Tons
AHU-6	Archives	North Mech. Fan Room, Level 49	25,000 CFM CV	40 Tons
AHU-7	South Executive Offices	South Penthouse Roof Level 154	56,400 CFM VAV	150 Tons
AHU-8	North Executive Offices	North Penthouse Roof Level 154	46,600 CFM VAV	125 Tons
AHU-9 AHU-10	East General Offices	East Basement Fan Room Level 79	40,000 CFM each VAV	110 Tons each
AHU-11 AHU-12	Central General Offices	Central Basement Fan Room Level 79	41,000 CFM each VAV	110 Tons each
AHU-13 AHU-14	West General Offices	West Basement Fan Room Level 79	40,000 CFM each VAV	110 Tons each

Heating System

New System

The campus heating plant is reported to have sufficient capacity to serve the Executive Plaza (14,500#/hr- 8" steam supply & 4" condensate return) and the piping within utility tunnel is reported in good condition. New branch service lines from Manhole SC-10 within new shallow concrete trench will be provided. Within the basement mechanical room, steam will be converted to heating water and pumped to new heating coils. For improved reliability and control dual steam to heating water converters and multiple circulating pumps will be provided. To reduce

energy consumption/costs two-way control valves and a variable speed-heating water pump package will be provided.

Hot water coils will be provided in the new air handling units for morning warm up and in the new terminal units for added individual zone control.

Cooling System

New System

The Executive Plaza will be fully air conditioned. The new load is estimated to be 1,400 tons. The Capitol Campus central chilled water plant is available in April/May. It currently has three chillers, each approximately 680 tons. Two chillers are original equipment and utilize R-11 which is a CFC refrigerant. One chiller was added in 2004 and utilizes R-134a, which is an HFC refrigerant. Peak capacity of the plant is approximately 2,000 tons. Existing peak load is 1,000 tons. Consequently, the west plant has insufficient capacity to serve the new Executive Office Plaza. In 2001 a Chilled Water System Study concluded that a new plant should be constructed at the southwest corner of Jefferson Street and 14th Avenue. Therefore, we recommend that the Chilled Water System Study be updated and new plant recommendations implemented, or as an option, a new chilled water plant integral with the Executive Plaza could be added to this pre-design study.

Within the South Mechanical Room, Level 49, a new secondary chilled water system (3,400gpm, four pump) will be provided. For increased reliability and to reduce energy consumption/cost a dual variable speed packaged pumping unit will be provided. Chilled water supply and return piping will be extended from the basement mechanical room to all the air handling units.

Since the central plant is not available year around, small local mechanical cooling systems will be provided to offset continuous equipment heat gains in the MDF room and computer server rooms. Generally, these are small split air conditioning systems.

HVAC Controls

New System

A Direct Digital Control (DDC) system will be provided to automatically control and monitor the HVAC systems. The DDC system will monitor and control all aspects of the mechanical systems. Controls will comply with General Services Administration Facilities Design Guidelines and Construction Standards. The system will utilize the LonTalk protocol as the common communication protocol.

Fire Protection Systems

New Systems:

Multiple new fire water service will be brought into the plaza and automatic, wet pipe type sprinkler systems will be provided to protect plaza occupants. During design, a water flow analysis should be completed to verify water availability.

A new fire water service will be brought into the parking structure and a dry sprinkler system will be provided within the buried parking garage to protect staff.

Plumbing System Description

Plumbing design will include the following:

1. Multiple connections to the site sanitary sewer and storm sewer systems at 5 feet outside the building will be provided.
2. Multiple connections to the site water system 5 feet outside the building will be provided to serve domestic cold water and fire sprinkler requirements.
3. Multiple 120°F hot water system will be provided to serve domestic water loads throughout the plaza. A gas-fired domestic hot water heater will be installed in the basement mechanical room.
4. Hot water re-circulation will be provided on the domestic hot water system to assure hot water at all fixtures.
5. Floor drains will be provided in all toilet rooms and in the mechanical rooms.
6. All new plumbing fixtures will be provided in the new toilet rooms, janitor closets and elsewhere throughout the building as required by the building program.
7. New refrigerated drinking fountains shall be provided.

Electrical Systems Description

New Construction Recommendations

General Electrical Summary

The electrical services for the Heritage Center, GA Building, Parking Garage and Executive Office Building shall be separate. This will allow a smooth transition of construction in the event the project is phased in and to adequately serve the loads with standard electrical equipment.

Codes

- NFPA 70, National Electrical Code, 2005;
- NFPA 70E, Electrical Safety in the Workplace, 2004
- NFPA 72, International Building Code, 2003, with Washington State amendments;
- WAC 296-46B, Electrical safety standards, administration
- Capital Campus Standards, 2003
- LEED®

Campus Chiller Plant

The mechanical pre-design report a new 1,200 to 1,600-ton chiller is suggested to be added to the central plant to accommodate LEED® requirements. The power for this chiller will be derived from the plant.

Power Service - Heritage Center

The Heritage Center will be electrical served with 12.47KV from circuits #17 and circuits #18. These circuits are shall be connected to the Capitol Campus 12KV loop. Circuits #17 and #18 will terminate in a 600A, 5 section 13.8KV medium voltage switchgear reused from the original GA Building project. The medium voltage switchgear will locate in a dedicated room at the lower parking level. The medium voltage switch shall serve a new double ended switchboard. Each

end of the switchboard shall be served from a dedicated 2,500KVA, 12.47KV-480Y/277V, 3 phase, 4 wire transformer. Each transformer would be fed with a dedicated fused switch.

The building service entrance conductors will be fully rated for the service switchboard capacity. The main switchboard shall double ended with a common tie breaker and be rated for 4,000Amp, 480Y/277V, 3Phase, 4Wire. The main switchboard will be located in a dedicated electrical room within the building. The connected electrical load on the new service is expected as follows:

Lights	330 KVA
Recepts	1,290KVA
Elevators	200 KVA
Chiller Pumps	600 KVA
Mechanical	1,700KVA
Kitchen Equipment	120 KVA
Miscellaneous	<u>160 KVA</u>
Total	4,460 KVA
Transformers Size	(2)2,500 KVA
Total Service Size	(2)4,000 Amps

The service transformer shall be dry-type, copper winding with taps in a NEMA 1 enclosure with force air cooling. The service switchboard shall be factory assembled, dead front distribution type in accordance with NEMA PB2, U.L. labeled and listed, suitable for use as service entrance. The switchboard bussing will be copper only, fully rated, 4000 ampere vertically and horizontal bussing for all section, with 100% neutral and 50% rated ground bar. Anticipated fault rating of bus is 100,000 AIC. Each of the main breakers shall be individually mounted, be set for 4000 amps and shall be GFCI protected. All breakers shall be molded case. A multi-functional electronic meter shall be installed at the main breaker and interfaced directly to the Capitol Campus Energy Management System. In the event of a transformer failure manual load shedding will allow one transformer to carry a portion of the building until the failed transformer is replaced.

Power Service Executive Plaza

The Executive Plaza will be electrical served with 12.47KV from circuits #17 and #18. These circuits shall be connected to the Capitol Campus 12KV loop. Circuits #17 and #18 will terminate in a new 600A, 4 section 13.8KV medium voltage switchgear. The medium voltage switchgear will locate in a dedicated room at the upper parking level. The medium voltage switch shall be arranged such that if one circuit fails the second feeder can energize the switchboard. The medium voltage switch shall serve a new single ended switchboard. The switchboard shall be served by a 3,000KVA, 12.47KV-480Y/277V, 3 phase, 4 wire transformer shall. The transformer shall be fed with a dedicated fused switch.

The building service entrance conductors will be fully rated for the service switchboard ampacity. The main switchboard shall be rated for 4,000Amp, 480Y/277V, 3Phase, 4Wire. The main switchboard will be in a dedicated electrical room within the building. The connected electrical load on the new service is expected as follows:

Lights	146 KVA
Recepts	972KVA
Elevators	194 KVA
Chiller Pumps	425 KVA
Mechanical	1,143KVA
Kitchen Equipment	73 KVA
Miscellaneous	<u>85 KVA</u>
Total	3,038 KVA
Transformer Size	(1)3,000 KVA
Service Size	4,000 Amps

The service transformer shall be dry-type, copper winding with taps in a NEMA 1 enclosure with force air cooling. The service switchboard shall be factory assembled, dead front distribution type in accordance with NEMA PB2, U.L. labeled and listed, suitable for use as service entrance. The switchboard bussing will be copper only, fully rated, 4,000 ampere vertically and horizontal bussing for all section, with 100% neutral and 50% rated ground bar. Anticipated fault rating of bus is 100,000 AIC. The main breaker shall be individually mounted, be set for 4000 amps and shall be GFCI protected. All breakers shall be molded case or insulated case as appropriate. A multi-functional electronic meter shall be installed at the main breaker and interfaced directly to the Capitol Campus Energy Management System.

Power Service General Office Building

The General Office Building will be electrical served with 12.47KV from circuits #17 and circuits #18. These circuits are shall be connected to the Capitol Campus 12KV loop. Circuits #17 and #18 will terminate in a new 600A, 4 section 13.8KV medium voltage switchgear. The medium voltage switchgear will locate in a dedicated room at the lower parking level. The medium voltage switch shall serve two switchboards. These switchboards shall serve the GA building, site lighting and the parking garage. The switchboards shall be as follows:

Switchboard #1: Double ended, rated for 4000Amp, 480Y/277V, 3Phase, 4Wire. Each end of the switchboard shall be served from a dedicated a 3000KVA, 12.47KV-277/480V, 3 phase, 4 wire transformer. The switchboard shall have a 4000amp tie breaker. Each transformer shall be fed with a dedicated fused switch. This switchboard shall serve the GA Building and the site lighting.

Switchboard #2: Single ended, rated for 1200Amp, 480Y/277V, 3Phase, 4Wire. The switchboard shall be fed from a 750KVA, 12.47KV-480Y/277V, 3 phase, 4 wire transformer. The transformer shall be fed with a dedicated fused switch. This switchboard shall serve the parking garage.

The building service entrance conductors will be fully rated for the service switchboards ampacity. The main switchboards will be located in a dedicated electrical room within the building. The connected electrical load on the new service is expected as follows:

Lights	287 KVA
Recepts	1,910KVA
Elevators	382 KVA
Chiller Pumps	836KVA
Mechanical	2,268KVA
Kitchen Equipment	120 KVA
Miscellaneous	<u>167 KVA</u>
Sub-Total	5,970 KVA

Site Loads	150KVA
Parking Garage	<u>563KVA</u>
Total	6,683KVA
Transformers Size	(2)3,000 KVA, (1) 750KVA
Service Size	(2)4000 Amps and (1)1200Amps

The service transformer shall be dry-type, copper winding with taps in a NEMA 1 enclosure with force air cooling. The service switchboard shall be factory assembled, dead front distribution type in accordance with NEMA PB2, U.L. labeled and listed, suitable for use as service entrance. The switchboard bussing will be copper only, fully rated, 4000 ampere (1200ampere for the garage) vertically and horizontal bussing for all section, with 100% neutral and 50% rated ground bar. Anticipated fault rating of bus is 100,000 AIC (65,000 for the garage). Each of the main breakers shall be individually mounted, be set for 4000 amps (1200amps for the garage) and shall be GFCI protected. All breakers shall be molded case. A multi-functional electronic meter shall be installed at the main breaker and interfaced directly to the Capitol Campus Energy Management System. For the double-ended switchboard in the event of a transformer failure manual load shedding will allow one transformer to carry a portion of the building until the failed transformer is replaced.

Emergency Power Heritage Center

Recommendations

Archive and library storage HVAC needs to remain operational during power outages. A new 250KW, 480Y/277V skid mounted diesel generator, located within a dedicated room of the building, will serve the emergency electrical power needs of the building. The electrical needs include code required egress/exit lighting, fire alarm, smoke control and dedicated standby HVAC and receptacle circuits. Two transfer switches will allow load shedding of non life safety loads as required by code. The anticipated generator load is 225KVA.

An emergency power panel will be located on every other floor to serve emergency loads within the building.

All electrical and control components shall be supplied with the generator. The exhaust and silencer will be wrapped with industrial grade thermal insulation. The location of the exhaust will be of sufficient distance from the building openings to avoid infiltration and induction into the HVAC system. A Fuel tank will be strategically located and sized for 72 hour of continuous run time at full load.

Emergency Power Executive Office Plaza, Parking Garage and General Office Building:

Recommendations

A new 600KW, 480Y/277V skid mounted diesel generator will serve the emergency electrical power needs of the building. The electrical needs include code require egress/exit lighting, fire alarm, smoke control and dedicated standby HVAC and receptacle circuits. Two transfer switches will allow load shedding of non life safety loads as required by code. The anticipated generator load is 550KVA.

An emergency power panel will be located on every other floor of each building to serve emergency loads within the building.

All electrical and control components shall be supplied with the generator. The exhaust and silencer will be wrapped with industrial grade thermal insulation. The location of the exhaust will be of sufficient distance from the building openings to avoid infiltration and induction into the HVAC system. The Full tank will be located within the building and sized for 72 hour of continuous run time at full load.

Power Distribution Executive Office Plaza, Heritage Center, Parking Garage and General Office Building

Recommendations

A completely new power distribution system consisting of panel boards located on each floor shall be provided. The new switchboards will serve new panel risers. Transformation on each floor will occur on that floor. A typical electrical room will consist of one 480Y/277 Volt panel and a minimum of three 208Y/120V Volt panels located in a dedicated electrical closet. All floor electrical loads including HVAC, lighting and receptacles shall be fed from panels located on that floor. The kitchens will be served by a minimum of two dedicated 208Y/120 Vvlt panels with shunt trip style main breakers. All panel boards shall be of commercial quality in accordance the NEMA PBI. All circuit breakers shall be molded case and shall be bolt-on type. Panel boards shall include hinged door-in door construction. Bussing shall be copper only and neutrals sized to compensate for harmonics. Panels shall be designed with a minimum of 20% spare capacity.

All transformers will be ANSI/NEMA ST20 dry type with 220 degree C with 150 degree C temperature rise insulation. The transformer winding shall be copper only and sound level shall not exceed 35db. K-13 rated transformers will be utilized to accommodate all non-linear loads. The use of harmonic filters to minimize the K factor rating of the transformer shall be performed.

All new wiring devices and branch circuits will serve individual program electrical requirements. In the open office areas the branch circuits will feed floor boxes located within raised floors. These receptacles shall be installed with separate wiring taps form the branch circuit. They shall not be daisy chained. 120V circuits shall be in a separate raceway from 277V circuits. For 120V and 277V circuits with non-linear loads neutrals shall be provided that are dedicated per circuit. Receptacles shall be rated 125VAC and 20 amperes. Color shall be ivory for utility circuits and orange for computer circuits. Stainless steel cover plates or cover plates matching building décor shall be used. Wiring shall be a minimum of 12 AWG and shall be type THHN/THWN for interior applications.

Lighting Executive Office Plaza, Heritage Center, Parking Garage and General Office Building

Recommendations

A new lighting system shall be utilized for the project. Fixture types will be selected per ceiling types and room usage. Lamps will predominately fluorescent, premium specification grade and high efficiency. Most fixtures shall contain lamps shall be four foot, T8, 3,500 Kelvin color temperature with a minimum of 75 color rendering index. Compact fluorescent shall be utilized to accent spaces or be used in specific locations for pathway lighting. HID interior lighting shall be Metal Halide fixtures located in large open areas and be positioned to avoid direct contact of the eye with the lamps. Outdoor lighting shall be high-pressure sodium type.

Occupancy sensors and photo sensors will be provided in offices and storage areas. Day lighting controls will be provided in all large spaces to maximize the potential for energy savings and increase LEED® credits.

All lighting shall be controlled by a Horton (G.E.) control panels. Each office zone shall have its own bypass switch located within the area.

New site lighting fixtures will be anticipated on walkways.

Fixture types, in general, will consist of pendant linear in office and direct/indirect lighting in closed office spaces with allowances for historic fixtures at building entries. Open atriums HID interior lighting shall be Metal Halide fixtures. These fixtures will be positioned and aimed to allow general lighting source illumination with minimum glare while complimenting natural day lighting. Lighting in the Heritage Center, Archives, and Museum will be state-of-the-art fixtures to avoid damage of archival and historic material.

Control systems and fixture selection will be chosen to maximize the number of possible LEED® credit points.

Communications Systems Analysis Executive Office Plaza, Heritage Center, Parking Garage and General Office Building

Recommendations

A new fiber service backbone of sufficient capacity shall be provided to serve the new communication requirements for each of the Executive Office Plaza, General Office Services and the Heritage Center.

The General Office Building shall contain the main communication and security head end systems for the Capitol Campus. A dedicated room for each of these systems is anticipated.

Each building shall contain a new distribution infrastructure system will be provided consisting of a cable tray in the corridor spaces with raceways to each outlet location. Each floor shall have a dedicated communication closet. The MDFs for each building shall serve the basement.

New data and voice cabling should be provided throughout, with quantities determined by Capital standards and program. Data communication equipment, station wiring, and station outlet terminations will be provided by the Legislative Service Center.

Access Control Executive Office Plaza, Heritage Center, Parking Garage and General Office Building

Recommendations

Within each building the new access control system consisting of electronic card access, electronic cameras, and an intrusion alarm system in selected areas shall serve the project. The closed circuit television system shall consist of cameras, DVRs, cable, raceways and power supplies. Cameras shall be chip type, be IP addressable and be compatible to allow interface to the existing capitol security system. A minimum of one access control panel with associated door power supplies shall be provided on each floor. All exterior doors shall be monitored by door contacts. Card readers shall be standard 4: square size unless conditions require a slim line version.

The intrusion detection system shall contain motion detectors, door contacts, keypads associated raceway and cable. Motion detectors shall be installed in the main corridors and along the first floor windows.

The panic-alarm system shall contain push buttons a panel and interface to the central monitoring system. The panic push buttons shall be placed under desk at the greeter, sales and related high visitor areas.

Each electronic security system shall be interface with the communication LAN system. Each head end subsystem should be assigned a dedicated IP address.

Refer to communications recommendation above for Head-End Campus Security system.

Intercom/TV Systems Executive Office Plaza, Heritage Center, Parking Garage and General Office Building

Recommendations

Outlets for legislative intercom channels and television systems shall be provided to meet the project's programming requirements.

Fire Alarm System Analysis Executive Office Plaza, Heritage Center, Parking Garage and General Office Building

Recommendations

Each building shall contain a completely new fire alarm system with device locations determined by programming and codes and code is planned. The new main panels shall be compatible with existing campus controls. Annunciation devices shall meet ADA requirements. Indicating devices shall be speaker/strobe type. The head end system shall be located in the General Office Building within the fire control room. An appropriate fire suppression system will be designed for the archives and library areas in the Heritage Center.

Sustainable Design/ LEED® Certification

In July 2005 the State of Washington enacted Senate Bill 5509 requiring publicly funded major building projects to achieve LEED® "Silver Certification" at a minimum. To this end, an eco-charrette was completed as part of the predesign process to look at alternative designs for the building. The table below is a preliminary illustration of the probable LEED® credits attainable for this project to achieve LEED® Silver and possibly LEED® Gold.

		Yes	?	No
Sustainable Sites		8 Points		
Prereq 1	Construction Activity Pollution Prevention	Y		
Credit 1	Site Selection	1		
Credit 2	Development Density & Community Connectivity	1		
Credit 3	Brownfield Redevelopment			N
Credit 4.1	Alternative Transportation , Public Transportation Access	1		
Credit 4.2	Alternative Transportation , Bicycle Storage & Changing Rooms	1		
Credit 4.3	Alternative Transportation , Low-Emitting and Fuel-Efficient Vehicles	1		
Credit 4.4	Alternative Transportation , Parking Capacity		?	
Credit 5.1	Site Development , Protect or Restore Habitat			N
Credit 5.2	Site Development , Maximize Open Space	1		

Credit 6.1 Stormwater Design , Quantity Control		?	
Credit 6.2 Stormwater Design , Quality Control		?	
Credit 7.1 Heat Island Effect , Non-Roof	1		
Credit 7.2 Heat Island Effect , Roof	1		
Credit 8 Light Pollution Reduction			N
Water Efficiency		4 Points	
Credit 1.1 Water Efficient Landscaping , Reduce by 50%	1		
Credit 1.2 Water Efficient Landscaping , No Potable Use or No Irrigation		?	
Credit 2 Innovative Wastewater Technologies	1		
Credit 3.1 Water Use Reduction , 20% Reduction	1		
Credit 3.2 Water Use Reduction , 30% Reduction	1		
Energy & Atmosphere		17 Points	
Prereq 1 Fundamental Commissioning of the Building Energy Systems	Y		
Prereq 2 Minimum Energy Performance	Y		
Prereq 3 Fundamental Refrigerant Management	Y		
Credit 1 Optimize Energy Performance	6		
Credit 2 On-Site Renewable Energy			N
Credit 3 Enhanced Commissioning	1		
Credit 4 Enhanced Refrigerant Management	1		
Credit 5 Measurement & Verification	1		
Credit 6 Green Power		?	
Materials & Resources		5 Points	
Prereq 1 Storage & Collection of Recyclables	Y		
Credit 1.1 Building Reuse , Maintain 75% of Existing Walls, Floors & Roof			N
Credit 1.2 Building Reuse , Maintain 100% of Existing Walls, Floors & Roof			N
Credit 1.3 Building Reuse , Maintain 50% of Interior Non-Structural Elements			N
Credit 2.1 Construction Waste Management , Divert 50% from Disposal	1		
Credit 2.2 Construction Waste Management , Divert 75% from Disposal	1		
Credit 3.1 Materials Reuse , 5%			N
Credit 3.2 Materials Reuse , 10%			N
Credit 4.1 Recycled Content , 10% (post-consumer + ½ pre-consumer)	1		
Credit 4.2 Recycled Content , 20% (post-consumer + ½ pre-consumer)		?	
Credit 5.1 Regional Materials , 10% Extracted, Processed & Manufactured Regionally	1		
Credit 5.2 Regional Materials , 20% Extracted, Processed & Manufactured Regionally		?	
Credit 6 Rapidly Renewable Materials			N
Credit 7 Certified Wood	1		
Indoor Environmental Quality		12 Points	
Prereq 1 Minimum IAQ Performance	Y		

Prereq 2	Environmental Tobacco Smoke (ETS) Control	Y		
Credit 1	Outdoor Air Delivery Monitoring	1		
Credit 2	Increased Ventilation	1		
Credit 3.1	Construction IAQ Management Plan , During Construction	1		
Credit 3.2	Construction IAQ Management Plan , Before Occupancy	1		
Credit 4.1	Low-Emitting Materials , Adhesives & Sealants	1		
Credit 4.2	Low-Emitting Materials , Paints & Coatings	1		
Credit 4.3	Low-Emitting Materials , Carpet Systems	1		
Credit 4.4	Low-Emitting Materials , Composite Wood & Agrifiber Products	1		
Credit 5	Indoor Chemical & Pollutant Source Control	1		
Credit 6.1	Controllability of Systems , Lighting	1		
Credit 6.2	Controllability of Systems , Thermal Comfort		?	
Credit 7.1	Thermal Comfort , Design	1		
Credit 7.2	Thermal Comfort , Verification	1		
Credit 8.1	Daylight & Views , Daylight 75% of Spaces		?	
Credit 8.2	Daylight & Views , Views for 90% of Spaces		?	
Innovation & Design Process		3 Points		
Credit 1.1	Innovation in Design : Provide Specific Title	1		
Credit 1.2	Innovation in Design : Provide Specific Title	1		
Credit 1.3	Innovation in Design : Provide Specific Title		?	
Credit 1.4	Innovation in Design : Provide Specific Title		?	
Credit 2	LEED® Accredited Professional	1		
Project Totals (pre-certification estimates)		41 Points		
Certified 26-32 points Silver 33-38 points Gold 39-51 points Platinum 52-69 points				

Codes / Regulations – Preferred Alternative

Code Summary:

- The building is being considered one building of Type I construction.
- Relative to exiting and fire alarms the buildings are considered as three separate buildings including the Heritage Center and Executive Office Building as one, the west half of the General Office and the parking garage as one, and the east side of the General Office Building as one.
- The buildings are not high rise construction.
- Level 64 of the Heritage Center has more than 1,000 occupants, requiring 4 exits.
- The garage will be Group S-2 and it is considered a separate and distinct building for the purpose of determining area limitations, continuity of fire walls and the limitation on the number of stories.
- An “average” floor will require a minimum of 10 toilets or urinals and 6 lavatories split evenly between men and women.

Applicable Codes:

- International Building Code 2003 Edition (with Washington State amendments), Appendix D, & Fire Districts

Appendix E, Sections 101 through 106
Appendix G, Flood resistant construction
Appendix H, Signs
Appendix J, Grading

- ICC/ANSI A117.1 (ICC A117.1)
- 2003 International Mechanical Code (IMC)
- 2003 International Fuel Gas Code (IFGC)
- The National Fuel Gas Code (NFPA 54)
- The Liquefied Petroleum Gas Code (NFPA 58)
- 2003 Uniform Plumbing Code (UPC) and the following appendices:
 - Appendix A, Pipe sizing
 - Appendix B, Notes on combination waste/venting
 - Appendix I, Installation Standards
 - Appendix H, Grease Interceptors
- 2003 Washington State Energy Code (WSEC)
- 2003 Washington State Ventilation & Indoor Air Quality Code (VIAQ)
- 2002 National Electrical Code (NEC)

Note: some of these codes are superseded by Washington State amendments

This list does not include Ordinance provisions to regulate Grading and Clearing (OMC 16.48), Floodplain Development (OMC 16.04.030.20), Tree protection ordinances, etc.

Structural Design Criteria:

Roof Snow Load: 25 PSF

Snow load may not be reduced for roof slope pursuant to IBC 1608.4

Basic Wind Speed: 85 MPH

Exposure: C in some locations near shoreline or on hills, B elsewhere

Seismic Design Category: D

A geotechnical investigation is required for commercial projects pursuant to IBC Section 1802

International Building Code Review:

Chapter 3: Use and Occupancy Classification

Occupancy Groups:

- Group B
- This is the main occupancy group; see incidental and accessory uses below.
- Group A-3 (Assembly spaces of 50-300 persons) includes auditorium, conference center, public space on the 1st floor of the general office, heritage center, library collections, & conservatory
- Group A-2 (Assembly uses intended for food consumption) includes café & café seating
- Group S-2 (Low hazard storage) includes the enclosed parking garage

Incidental Use Areas (Table 302.1.1)

- Storage Rooms greater than 100SF require 1-hour separation or fire extinguishing system.
- *Note that with fire extinguishing system smoke separation is still required (302.1.1.1)*

Accessory use areas (section 302.2)

- Accessory use areas not in table 302.1.1 and not Group H are not required to be separated if the accessory use area is less than 10% of the area of the floor on which it is located and does not exceed Table 503 values for such use group.
- Accessory assembly areas less than 750SF are not considered separate occupancies.

Occupancy Separations (see section 302.3 and table 302.3.2)

- In general there is a 2-hour occupancy separation between type B and type A-3 occupancies with reduction to one hour permitted when sprinklers are provided. See note b. in table 302.3.2 for when occupancy separations are not required for storage areas within Group B
- Mixed Occupancy (302.3): If classified as a mixed occupancy building, the uses must be either Separated or Non-Separated and the allowable floor areas would be calculated accordingly:

Non-Separated Uses (section 302.3.1): Required construction type shall be determined by applying height and area limitations for each use group to the entire building and the most restrictive type so determined shall apply to the entire building.

Separated Uses (section 302.3.2): In each story, the building area shall be such that the sum of the ratios of floor areas of each use divided by the allowable area for each floor shall be less than one.

*Summary:

- Primary Occupancy is Group B with some accessory A-3 and A-2 use groups.
- The garage will be Group S-2 and it is considered a separate and distinct building for the purpose of determining area limitations, continuity of firewalls and the limitation on the number of stories. See Section 508.2 (Group S-2 enclosed parking garage with Group A, B, M or R above).
- Based on construction Type I (see chapter 6 summary below), we anticipate that the building will be classified as Mixed Occupancy with Separated Uses because the A-3 and A-2 spaces fill more than 10% of the area of some levels and thus cannot be called accessory use to group B. Any other occupancy groups classified as accessory or incidental use areas to the main occupancy group do not need to be considered different occupancy and only need to be separated with a fire barrier if required as defined in incidental use areas.

Chapter 4: Special Requirements Based On Use and Occupancy

See Section 403: High-Rise Buildings

Section 403.1 Applicability. The provisions of this section shall apply to buildings having occupied floors located more than 75 feet above the lowest level of fire department vehicle access. (The Executive Office Building and Heritage Center together are taller than 75 feet from the base. But fire trucks will be able to access the Heritage Center by the lake and the Executive Office Building at the plaza level. Due to this level of fire truck access this structure is not considered a high-rise building)

See Section 404: Atriums.

Section 404.3 – An automatic sprinkler system throughout would be required. Buildings will be sprinkler protected.

Section 404.4 – Smoke control system shall be installed

Section 404.5 – Atrium spaces shall be separated from adjacent spaces by a 1-hour fire barrier wall, or if not separated, adjacent spaces must be considered part of the atrium volume when smoke control system is required.

Section 404.8 – In other than the lowest level of the atrium, where the required means of egress is through the atrium space, the portion of exit access travel distance within the atrium space shall not exceed 200 feet.

See Section 406: Motor-Vehicle-Related Occupancies

Section 406.4 Enclosed parking garages

Chapter 5: General Building Heights and Areas

Building area shall include exterior areas below projections of roofs or floors above (section 502.1)

- Allowable Height and Building Area (see Table 503)
- Assuming Construction Type I-B (refer to Chapters 3 and 6):
 - Maximum area: no single story shall exceed allowable area/floor
 - Unlimited SF/floor for group A (x3 stories per 506.4)
 - Unlimited SF/floor for group A-3 (x3 stories per 506.4)

Maximum # stories:

11 stories for group B

11 stories for group A-3 and A-2

Maximum height: measured to average height of highest roof surface

160 feet above “grade plane” for type IB construction

Grade Plane: Plane representing the average of finished ground level adjoining the building at exterior walls. With building set into hillside, the approximate average grade plane can be averaged from the southeast corner to the northeast corner of the building as those are the highest and lowest points of grade.

- Height and Area Modifications (Section 504 and Section 506):
 - May increase maximum height by 20’ and 1 additional story if protected with sprinkler system.
 - May increase maximum areas per calculations as part of the general area modifications (Section 506.1) if protected with sprinkler system. This includes additions due to a frontage increase (Section 506.2).

Summary:

For construction Type I-B:

Maximum Allowable Building area (Group B):

Unlimited SF/floor

Maximum Allowable Building area (Group A-3):

Unlimited SF/floor

Maximum Number of Stories: 11+1story sprinkler modification = 5 stories max.

Max building Height: 160 feet +20 feet sprinkler modification = 180 feet.

*The Building is within maximum allowable area, maximum number of stories and maximum allowable height for construction type I-B.

Chapter 6: Types of Construction

Anticipated Construction Type: **Type I-B.**

Type I construction is a type of construction in which all building elements listed in Table 601 are of non-combustible materials.

Fire resistance-rating requirements of building elements, Type I-B (see Table 601):

Structural Frame:	2 hours
Bearing walls (interior and exterior):	2 hours
Nonbearing exterior walls (per table 602):	1 hour (w/ min. fire separation distance of 10')
Nonbearing interior walls:	0 hours
Floor Construction:	2 hours
Roof Construction:	1 hours

Chapter 7: Fire Resistance-Rated Construction

This Chapter describes materials and assemblies to be used when required to be built of fire-resistive rated construction by the code. Some fire rated construction to note:

Stairway Enclosures	2 hr. when greater than 4 stories (see 1019.1)
Area Separation	2 hr. (none anticipated)
Shaft Enclosures (section 707)	1 hr. if less than 4 stories, 2 hr. if greater than 4 stories
Protected Elevator Lobby	Not required if building is sprinkler protected (707.14.1)
Corridors	See section 10.16 (not required if sprinkled)
Occupancy Separation	See chap 3 summary above
Building Elements	See chap 6 summary above

Table 705.4 – Firewall fire-resistance ratings:

Groups B, A, and S-2 all require 3 hour rating for firewalls. Each portion of a building separated by one or more firewalls that comply with the provisions of this section shall be considered a separate building.

Table 715.3 – Fire door and fire shutter protective ratings:

Firewalls and fire barriers with 3-hour rating require 3-hour rated doors
 Firewalls and fire barriers with 2-hour rating require 1.5-hour rated doors
 Shaft exit enclosures and exit passageways with a 1-hour rating require 1-hour rated doors
 Other fire barriers with 1-hour rating require 0.75-hour rated doors
 Corridor walls requiring a 1-hour rating require 20min rated doors
 Exterior walls requiring a 2-hour rating require 1.5-hour rated doors

715.3.7 Fire doors shall be self-closing in accordance with this section

715.3.7.3 Requirements for automatic closing by actuation of smoke detector apply to the cross-corridor doors at exit stairs.

Chapter 8: Interior Finishes

Wall and Ceiling Finishes: see section 803.1 for Class A, B, and C requirements for flame spread and smoke developed.

Flame Spread of finish materials per Table 803.5 for sprinklered buildings by occupancy group:

	<u>Group A-3 and A-2</u>	<u>Group B</u>	<u>Group S-2</u>
Stairways:	Class B	Class B	Class C
Exit ways:	Class B	Class C	Class C
Rooms:	Class C	Class C	Class C

Interior floor finishes per section 804

Chapter 9: Fire Protection Systems

Complying automatic sprinkler systems are defined in this chapter, and sprinklers are used as reason for a number of height and area modifications and other exceptions throughout the code.

Sprinklers are not required for occupancy group B (See Section 903.2)

Sprinklers are only required for occupancy group A-3 (See Section 903.2.1.3) if the A-3 fire area exceeds 12,000 SF or has an occupant load of 300 or is located on a floor other than level of exit discharge. This requires the buildings A-3 occupancy spaces to be sprinkled.

Sprinklers are only required for occupancy group A-2 (See Section 903.2.1.2) if the A-2 fire area exceeds 5,000 SF or has an occupant load of 300 or is located on a floor other than level of exit discharge. This requires the buildings A-2 occupancy spaces to be sprinkled.

Sprinklers are required in occupancy group S-2 (See Section 903.2.9)

It is our intention to equip the building with automatic sprinkler systems throughout.

Chapter 10: Means of Egress

Minimum height of egress path: 7'-0" throughout, 6'-8" minimum at stairs

Occupant Load determination (Section 1004): the largest load number calculated by both designed occupant use as well as occupant load calculated per values given by table 1004.1.2.

Occupant Load Factors (Table 1004.1.2)

Assembly without fixed seats:

Concentrated (chairs only not fixed)	7net
Standing Space	5net
Unconcentrated (tables and chairs)	15 net
Office& Business Areas:	100 gross
Kitchens, commercial:	200 gross
Parking Garage:	200 gross
Storage Rooms:	300 gross
Mechanical Rooms:	300 gross
Library Reading Room:	50 net
Library Stack Area:	100 gross

Do not sum up the floors. Each floor is independent of the other. (1004.4)

Egress width per person served (Table 1005.1)

Stairways	0.2" per person w/ sprinkler system, not less than 48" (1007.3)
Other egress components	0.15" per person w/ sprinkler system, not less than 44" at corridors

Door encroachment: no more than 7" when fully open (1005.2)

Accessible Means of Egress (1007.1): provides accessible route to an area of refuge, horizontal exit or public way (See section 1002) Accessible spaces shall have minimum of one accessible means of egress or two accessible means from a space required to have more than one exit. See also 1007.3 – an enclosed stair can be considered part of accessible means of egress and per

1007.3 exception #3, a 48" required clear width and a defined area of refuge at enlarged landings is not required if building is fully sprinklered.

Buildings with four or more stories (1007.2.1): One accessible means of egress shall be via a complying elevator when a floor is four or more stories above or below an exit discharge.

Areas of Refuge (1007.6): Sized to accommodate one wheelchair space of 30"x48" for each 200 occupants. When located within enlarged stair enclosure landings, the area of refuge shall not reduce the required exit width. A two-way communication device is required at the area of refuge (1007.6.3). Area of refuge is not required as noted in 1007.3 above.

Roof Stair: One stairway up to the roof is required in buildings 4 or more stories in height (1009.12) Roof stairway access is required through a penthouse (walls, floor and roof) complying with section 1509.2 (1009.12.1)

Egress through intervening spaces (1013.2): Only permitted when intervening space is accessory to the area served.

Common path of egress travel (1013.3): Maximum 75' travel before two means of egress are available.

Exit Access Doorways Required (Table 1014.1): Greater than 50 occupants requires two exit access doorways.

Exit Access and Travel Distance (Table 1015.1): With a sprinkler system, the maximum travel distance is 250 feet for A occupancy, 300 feet for B occupancy, and 400 feet for S-2 occupancy.

Corridors in group B, group A, and group S occupancies shall be 1-hour rated without a sprinkler system or 0-hour rated with a sprinkler system (table 1016.1)

Maximum dead end corridors: 20 feet. 50 feet with a sprinkler system in group B occupancy

Minimum Number of Exits (1018):

Room or spaces with occupant load of 1-500 require access to 2 exits (Table 1018.1)

Room or spaces with occupant load of 501-1,000 require access to 3 exits (Table 1018.1)

Room or spaces with occupant load >1,000 require access to 4 exits (Table 1018.1)

Occupied Roof shall have access to exits as required for stories (1018.1)

Vertical Exit Enclosures (1019):

2-hour rated when connecting greater than 4 stories

1-hour rated when connecting less than 4 stories

Exterior walls of vertical exit enclosures shall be rated per 704 for exterior walls.

Where non-rated or unprotected openings enclose the stair and are exposed to other parts of the building by less than 180degrees, the building exterior walls within 10 feet shall be rated to minimum 1-hour to a point 10 feet above top most landing or the roof line whichever is lower.

Chapter 11: Accessibility

In addition to 2003 IBC and any Washington State amendments, it is also anticipated that the design team will discuss accessibility goals with the state that meet universal design standards that may be more stringent than required by any codes or regulations.

Chapter 12: Interior Environment

Applicable ventilation, temperature, lighting and sound transmission provisions.

Chapter 13: Energy Efficiency

Refer also to mechanical and electrical systems narratives.

Applicable codes & guidelines to be reviewed with authorities having jurisdiction:

International Energy Conservation Code

Washington State Energy Code.

Energy Life Cycle Cost Analysis (ELCCA)

Leadership in Energy and Environmental Design (LEED®) per RCW 39.35 D

Washington State Energy Code Minimum Building Envelope Requirements (Table 13-1)

<u>Item</u>	<u>Minimum Thermal Performance</u>
Roofs	R-21 or U=0.050
Opaque Walls	R-19 or U=0.14
Opaque Doors	U=0.60
Floors over unconditioned space	R-19 or U=0.056
Slab on Grade	R-10 or F=0.54
Glazing (30% to 45% of wall area)	Max U=0.60 and Max SHCG=0.4

Chapter 14: Exterior Walls

Applicable definitions: Stone (natural), concrete

Chapter 15: Roof Assemblies and Rooftop Structures

The enclosed mechanical area is considered a penthouse (Section 1509.2)

Chapter 16, 17 and 18: Structural requirements and standards. Refer to structural narrative

Chapter 19, 20, 21, 22, 23, 24, 25, 26: Building materials requirements and standards

Chapter 27: Electrical requirements and standards. Refer to electrical narrative.

Chapter 28: Mechanical requirements and standards. Refer to mechanical narrative.

Chapter 29: Plumbing Systems

Refer also to plumbing systems narrative.

Minimum number of Required Plumbing Facilities (Table 2902.1)

Table 2902.1 has been amended by the State.

"Average" floor +/- 50,000 sf	at 1 person/200 sf = 250 people
Assume 125 men – requires	5 toilets (or 3 urinals + 2 toilets)
	3 lavatories
Assume 125 women – requires	5 toilets
	3 lavatories

Chapter 30: Elevators and Conveying Systems

Hoist way Enclosure protection: see 3002.1

Elevator Car to accommodate ambulance stretcher required in buildings of 4 stories or more (3002.4)

Emergency Operations per section 3003

Hoist way venting required per section 3004

Elevator Machine Rooms per section 3006

Churn Factors

Churn: The Physical Cost of Organizational Change

“Churn” is the changing of office configurations because of organizational changes, agency mission change and changes in numbers of staff (layoffs or additions).³ There are increasing pressures on state government to be more efficient and responsive. In seeking efficiencies, recent management practice has tended toward rapid changes to internal structures and processes, and to expand or contract programs as revenue changes—a volatile contributor to office space changes and moves in recent years. Changing administrations in state government bring new operational models which often result in further organizational change. These dynamics lead to significant churn in state government. A study by Cornell University found that in North America the average annual churn rate for office space is 40 %. The rate for the state probably doesn’t meet that level, but it certainly exceeds 10% per year.

Churn impacts facility costs in two ways. The first relates to the movement of the individual. Cornell University estimates the cost of a relocating an individual to be \$15 per square foot. Given an office size of 230 gross square feet, this implies a annual churn cost of \$1,380 per worker on average. Carnegie Mellon University found that typical churn costs are broken down in the move of the person, which typically will cost \$400 to \$600 per move depending on what is physically moved (e.g., desk, chair, files, etc.), and other communications or systems work needed to accommodate the individual’s physical move (e.g., rerouting computers and phones).

The second cost impact is related to physical changes to the workspace. The physical change of an open workstation can typically cost about \$1,000 depending on wiring and specific workstation configurations. The physical change of a private office can cost more than \$2,000 depending on build out, carpet patching, and HVAC systems changes.

For the state, our focus should be less on trying to control churn, since the organizational or structural change is often functionally or operationally beneficial, and more on reducing the associated costs and down time. Regularizing the design of various workplace elements, from the size and structural arrangement of spaces to standard furnishings, introduces a flexibility that can allow for churn while minimizing its cost implications.⁴ We can also develop strategies to improve the quality of occupancy during and after the churn.

³ Office churn as defined by the U.S. General Services Administration: “The rate of workspace occupant relocations within an organization, usually shown as a percentage of relocations per total workstations per year.” .

⁴ The use of raised flooring, as proposed in this project, can also reduce the cost of churn.

EOB to Incorporate Design Strategies that Minimize Churn

Washington's High Performance Standard offers three design strategies to reduce the cost of office churn:

- It establishes a ratio goal of approximately 10% private offices and 90% open space.
- It structures office spaces on a standard grid; and
- It establishes a structure for the conference spaces in support of offices and buildings generally.

The Executive Office Plaza/Heritage Center project will incorporate these design standards, and will take the standard one step further. Following the third design principle above, it will assume that all three buildings work as one with regard to conference space,. This assumption saves approximately 3,000 square feet of space that would be underutilized or duplicative in individual structures.

To minimize future churn costs for tenant agencies we are recommending the following design strategies with regard to the Executive Office Plaza/heritage Center project:

Introduce the universal office grid – This strategy designs all offices on an 8X8 internal grid. Thus, all offices are an even multiple or fraction of 8 in size: open offices are sized at 8x8 (64 sq ft), 8x12 (96 sq ft), 12X12 (144 sq ft), and 12X16 (192 sq ft). Bull-pen type configurations will be on the order of 16X24 (384 sq ft). Likewise, private offices will be 8X16 (128 sq ft), 12X12 (144 sq ft), 12X16 (192 sq ft) or 16X16 (256 sq ft) for instance. Using the basis of the 8X8 grid can not only reduce the cost of office churn significantly, it also can greatly improve office flexibility by readily permitting alternative uses of a fixed space to meet changing business needs.

Limit the number of alternative office sizes used (even with the 8X8 grid). This means that sometimes people will be in offices that may not exactly fit their status or their specific needs. In this circumstance, if an individual's office can't be sized appropriately with one of the sizes closest to their need, that individual's office should be the next larger size.

Limit the number of Private Offices. Our state standard is 90% open offices and 10% private offices. Thus, for offices housing 1,400 employees, 140 would have a private office and 1,260 would be in open space workstations. First cost wise, the typical cost of tenant improvement build out for a private office space, adjusted for those elements shared with open space and excluding the items that would be needed for a workstation, is about \$47 per square foot. A private office will need to be painted every 5 to 10 years at a cost of about \$1.50 per SF. Thus, over a 50-year life the 128 SF private office (excluding costs that need to be duplicated in a workstation) will cost about \$8,000 (dollars not adjusted for inflation). A typical 120 SF workstation will cost about \$4,100 and will have an average useful life of 15 years. Assuming a 50-year planning cycle the workstation will need to be replaced at least three times – a cost of \$12,300 implying that a workstation will cost \$4,300 more over 50-years. However, private offices require more sophisticated and expensive initial HVAC and lighting arrays (a cost that is imbedded in building shell and core costs), so the cost comparison , including the cost of modifying spaces due to churn, means open space workstations are the preferred cost alternative.

Standardized Furnishings – One of the costs of churn relates to major upsizing and downsizing of whole offices. One action that will reduce the cost of changes to whole offices (layout, etc.), as opposed to the movement of individuals within existing offices, is the use of standardized furnishings. Standardized (same size, type, etc.) but with customized components that can be

used in multiple forms (e.g., white boards that can be used in 8X8 or 8X16 offices) make facilities easily adaptable to changing requirements. General Administration recommends that all office furniture be standardized to the extent allowed by the individual programs. A Customized Kit will offer additional unique features and allow employees to customize workstations by choosing components to support their individual work requirements. This strategy will permit a universal workstation that can be readily adapted, but which gives employees more ownership and control of their personal work space. GA should offer tenants an option to lease the furniture, with a furniture replacement plan, over the term of the building lease. Under this model (the use of which should be at the option of the tenant), if a tenant moves, the furniture will stay with the building and will be available for the next tenant with the cost imbedded in their lease payment.

Raised Floors - Another approach to managing churn that has been successful in some situations is to construct buildings that have raised floors. Floor layouts can be changed quickly, because power and cabling can be quickly relocated. Simple and easy-to-move furniture can be used because it does not need to carry power and cabling, and HVAC does not need to be reconfigured because each work area has a diffuser providing heat and air conditioning. Raised floors might work well for state office spaces since historically the state has had frequent organizational reconfigurations. The Executive Office Plaza/Heritage Center buildings will use raised floor to reduce churn costs.

Standardized Computers and Telephones - The cost of reconfiguring furniture and moving, according to the Carnegie Mellon study, is less than the cost of moving computers and telephones. All offices in all three buildings should use the same telephone equipment and switching systems. Phone numbers and security systems should be standardized in all three buildings. To the extent possible, these buildings should employ the same computer switching and routing systems.

Co-located Conference Spaces with Teleconferencing - It is recommended that smaller conference spaces be located strategically within individual office areas, and one larger conference space be located on each floor (or possibly in each wing of a large floor plate). The largest conference space need for all three buildings is consolidated and co-located in the Heritage Center. An operational plan for these co-located spaces will be critical. But by consolidating and co-located these larger spaces we will see higher utilization with less dedicated space. An added benefit is that these co-located spaces can be configured to flexibly respond to multiple needs and they can also be configured with the latest in teleconferencing technologies.

Future Requirements and Flexibility

Allowance in buildings for future growth is a major policy decision. This section will look three aspects of the decision and will provide data and study references where available. The five aspects are:

1. Growth need for office space
2. Strategies for Holding Space
3. First Cost vs. Holding Cost

Growth need for office space

Growth need for office space has been calculated using two methods. One method was to ask the occupying agencies for any policy changes that might affect future staff and any anticipated general growth they anticipate. The project team received the following input in that regard:

- Office of Minority & Women's Business Enterprises – no growth anticipated

- Washington State Patrol – Annual compounded growth rate of 0.74%
- General Administration, Facilities Operations – no growth anticipated
- Conservation Commission – Annual compounded growth rate of 2%

The second method is to anticipate growth in square feet need in an aggregate sense by applying past trends to current office occupancy levels. The most frequently used method is to use cohort forecasting techniques. Among those are methods to forecast future revenue receipts (this will affect the *supply* of available resources that can be applied to hiring, among other uses of resources) the other method is to forecast employment based on population (assuming population increases create *demand* for services), which does tend to drive the demand for many of our services. A more specific cohort method would be to analyze caseload forecasts for specific populations. This last method was not employed, unless the individual agency used it to forecast their individual needs.

Regarding the *supply side* (looking at available revenues), future revenue receipts, the Office of the Forecast Council provides a revenue forecast that looks at the current plus one biennium. The following is the latest forecast:

	2006	2007	2008	2009	2010	2011	Avg.
Forecast Council estimate (General Fund only)	9.9%	3.4%	4.6%	5.4%	N/A	N/A	5.8%
OFM Forecast	8.4%	2.2%	5.7%	5.5%	5.0%	5.0%	5.3%

The Forecast Council predicates inflation. Their Implicit Price Deflator inflation estimates are:

	2006	2007	2008	2009	2010	2011	Avg.
Forecast Council estimate	2.6%	1.6%	1.7%	1.6%	N/A	N/A	1.9%

Assuming inflationary increases are subtracted prior to spending on new needs the net potential increase from the revenue side is (using Forecast Council Implicit Price Deflator inflation estimates):

	2006	2007	2008	2009	2010	2011	Avg.
Forecast Council estimate (General Fund only)	7.3%	1.8%	2.9%	3.8%	N/A	N/A	4.0%
OFM Forecast	5.8%	0.6%	4.0%	3.9%	N/A	N/A	3.6%

Regarding the *demand side*, we compared (using correlation techniques) the number of state employees (since 1983) with state total population (both annually and with population as a one-year and two-year leading indicator). We found the following correlations:

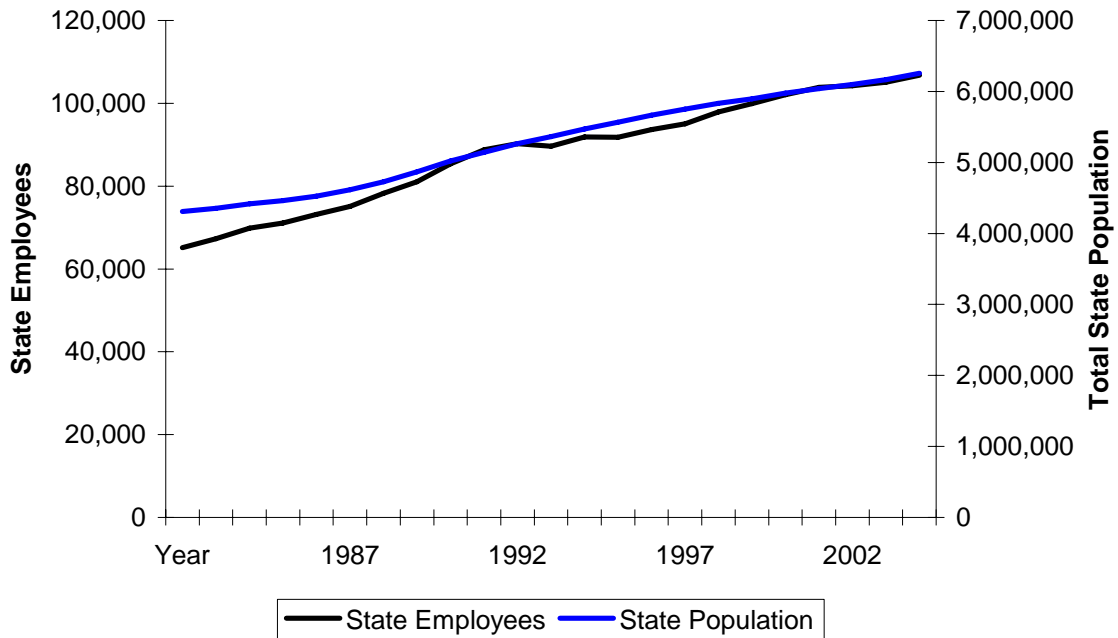
Number of state employees correlated with total state population = 0.992

Number of state employees correlated with total state population as a one-year leading indicator = 0.987

Number of state employees correlated with total state population as a two-year leading indicator = 0.980

The following chart shows the year-to-year comparison of state employees with total state population.

State Employees Compared To State Population (Since 1983)



OFM has forecasted future state population. That forecast is as follows:

2007	6,484,609
2008	6,597,132
2009	6,706,736
2010	6,811,216
2011	6,910,302
2012	7,005,471
2013	7,097,546
2014	7,188,021
2015	7,278,511

Applying this forecast to the regression that best fits the data set, the staffing forecast (and annual growth) is calculated at .019953 times population minus 17,506.2:

	Total Est. FTE	% Growth
2007	111,881	--
2008	114,126	2.0%
2009	116,313	1.9%
2010	118,398	1.8%
2011	120,375	1.7%
2012	122,274	1.6%
2013	124,111	1.5%
2014	125,916	1.5%
2015	127,722	1.4%

Another way of looking at the mix of state workers vs. population is to use the average number of state workers per 1,000 population. Since 1983 that average has been 16.6; for the past 10 years it has been 16.88. Using these two-per-1,000 worker measures, the forecasted FTE are:

	Using 16.6	Using 16.88	% Growth
2007	107,645	109,460	
2008	109,512	111,360	1.7%
2009	111,332	113,210	1.7%
2010	113,066	114,973	1.6%
2011	114,711	116,646	1.5%
2012	116,291	118,252	1.4%
2013	117,819	119,807	1.3%
2014	119,321	121,334	1.3%
2015	120,823	122,861	1.3%

In the absence of contrary forecasts, the standard growth forecasted for the Executive Office Plaza/Heritage Center occupying agencies will be 1.2% per year compounded. This figure is less than the derived averages in order to facilitate a more conservative construction program.

Holding Cost of Vacant Space vs. Acquiring Space As Needed

Assuming there is a chance that the forecasted growth of 1.2% per year does not materialize – that there is no growth during that period – then there is a cost of building, heating and cleaning that space that is not used. Even assuming there were growth to fill the space at the 10-year point, for all the years up to that point an annual holding cost will accumulate. How does that holding plus the first cost of constructing that space compare with the alternative of leasing alternative space on an as needed basis? The following is a summary of the holding cost calculations in Appendix 9.6:

Holding cost if all “growth” space unused during 10-year period = \$6.1 million
Holding cost assuming a 50% error in growth over 10-year period = \$2.4 million
Savings if forecasted growth of 1.2% per year holds over 10-year period = \$2 million

Furniture

Itemized Need

The furniture needs of proposed tenant agencies are estimated by utilizing General Administration Space Standards. In the programming process, employees were assigned either Private Offices (PO1 through PO6) or Open Spaces (OS2 through OS6, there are no OS1's). Other areas with furniture needs, enumerated in the program, include Reception Areas (RA1 through RA5) and Conference Rooms (CR1 through CR 8). Each category of space has typical furniture to which Correctional Industries System prices have been assigned. The prices are inclusive of delivery and installation.

The following trends are expected to impact furniture needs for the tenants of the buildings proposed in this predesign (see also "Future Requirements and Flexibility" in this section):

1. Move toward wireless instruments (phone as well as computers) and Voice Over Internet Provider (VOIP), which eliminates voice data wiring past the service entrance facility. A few fiber bundles may snake through the buildings to reach relays on each floor, not the massive copper runs that we have now. A few years ago wireless was considered too risky from a security standpoint. By the end of summer 2006 standards are expected to be in place for this concept to become accepted practice. Wireless systems should be mandatory in a 100-year building.
2. Acceptance of computers as recurring operational costs rather than fixed capital costs.
3. Telecommute arrangements may eventually preclude the need to provide a designated work station for each FTE.

Micro

(For more detail please see the Departmental Summary Sheets in Appendix 9.3)

Individual Furniture cost assumptions:

bookshelves	\$250.00	
chair, desk	\$600.00	
chair, side	\$250.00	
credenza	\$300.00	
desk, office	\$600.00	
desk, office, L	\$800.00	
file,2, lateral	\$300.00	
file, box, mobile	\$250.00	
keyboard	\$75.00	
overhead, light	\$50.00	
phone	\$150.00	
printer	\$100.00	
sofa,1	\$400.00	
sofa,2	\$650.00	
sofa,3	\$1,000.00	
sofa,4	\$1,200.00	
table, coffee	\$200.00	
table, end	\$200.00	
table, round	\$250.00	
table, square	\$250.00	modular for building all conference tables

tackboard	\$100.00	
whiteboard	\$100.00	
OS 2 S21 #68	\$4,310.90	Complete system includes install of 10%
OS 3 S21 #72	\$5,617.70	Complete system includes install of 10%
OS 4 S21 #76	\$5,874.00	Complete system includes install of 10%
OS 5 S21 #80	\$6,608.80	Complete system includes install of 10%
OS 6 S21 #85	\$8,977.10	Complete system includes install of 10%

Macro

GA standards recommend a ratio of 10% Private Offices to 90% Open Area space. The table below compiles a ratio of 32% Private Offices to 68% Open Area space. Additional planning work is necessary to bring these levels more closely into alignment with standards. The Edna Goodrich Building was furnished in 2005 with 11% Private Offices and 89% Open Area offices.

The total "office space" of 329,000 rentable square feet (excluding archives, library stacks and museum space), divided by total anticipated occupants, equals 269 square feet per occupant, 25% over the 215 square feet recommended by state standards. Given that this is projected to be an Executive Office Building for elected officials, the larger size may be appropriate for that building.

Budget

Correctional Industries Estimate of Furniture Cost

(These costs and the C100 Equipment totals exclude computers, copiers and other office equipment - assumes office equipment other than furniture is brought with worker or purchased from other than project resources)

<u>Space Type</u>	<u>Number</u>	Unit Cost	Total Cost
Private Offices			
Total PO-1	61	\$3,275	\$199,775
Total PO-2	70	\$3,125	\$218,750
Total PO-3	228	\$3,925	\$894,900
Total PO-4	33	\$4,525	\$149,325
Total PO-5	7	\$5,075	\$35,525
Total PO-6	4	\$5,775	\$23,100
Total PO-S	4	\$5,500	\$22,000
Total Special Private Offices	47	See note on detail page	\$441,512
Grand Total Private Offices	454		\$1,984,887
Conference Rooms			
Total CR-1	8	\$1,250	\$10,000
Total CR-2	7	\$1,750	\$12,250
Total CR-3	16	\$2,250	\$36,000
Total CR-4	7	\$3,250	\$22,750
Total CR-5	15	\$4,000	\$60,000
Total CR-6	14	\$6,500	\$91,000
Total CR-7	4	\$8,500	\$34,000
Total CR-8	7	\$10,500	\$73,500
Total Other Conference Rooms	22	See detail on next page	\$420,000
Grand Total Conf Rms	100		\$759,500

Other Conference category is treated like a total of seats times CR8 category.

Open Space Offices

Total OS-1	0	\$3,700	\$0
Total OS-2	7	\$5,111	\$35,777
Total OS-3	565	\$7,218	\$4,078,001
Total OS-4	174	\$7,974	\$1,387,476
Total OS-5	181	\$8,909	\$1,612,493
Total OS-6	<u>28</u>	\$12,477	\$349,359
Grand Total Open Space Offices	948		\$7,463,105

Reception Areas

Total RA-1	3	\$800	\$2,400
Total RA-2	9	\$1,300	\$11,700
Total RA-3	7	\$1,950	\$13,650
Total RA-4	1	\$2,600	\$2,600
Total RA-5	3	\$3,900	\$11,700
Total Other Reception Areas	See detail on next page		\$7,850
Grand Total Reception Areas	26		\$49,900

Grand Total Costs

\$10,257,392

Estimated Discount for Large Order (4%)

\$410,296

Total Furniture

\$9,847,096

Special Private Offices were calculated based on closest matching PO. Other Conference Rooms category ranged all the way up to 250 occupant auditoriums and were calculated based on multiples of CR-8's (30 occupant conference rooms). Other Reception Areas were calculated on closest matching RA.

Schedule

Correctional Industries estimates a six-month lead time for placing an order of this size. Depending on phases or the number of floors involved, this time could be staggered and compressed into a shorter period. Installation time for the Edna Goodrich Building was approximately four months. Air quality considerations for off-gassing were concurrent with the installation and commissioning exercises.

Retail Analysis

The enabling legislation for this project directs this study to include of leased space for retail activity along Capitol Way: *"The project shall also include leasable ground floor retail space on Capitol Way."*

A basic tenet of urban design states that mixed-use facilities enliven and vitalize an area and create space for people to congregate informally. Fred Kent of Projects for Public Spaces states, "People today are crying out for lively gathering places where civic life flourishes and different cultures can mix, places that heal social isolation. Any community that wants to discover the

rewards of public life can make a square its centerpiece. Public spaces - great squares - are not just for tourists to admire – they belong right in our backyards.” On the other hand, we heard from the public at one of the community meetings that state government should concentrate on providing government services and not be involved in development of retail spaces.

This predesign study shows retail at the corner of Union Avenue and Capitol Way. But further study outside of this project is merited to determine the type and quality of retail, if any, to include.

What is Appropriate for this Project?

The impact of a small retail establishment in a government office building can be mixed. Retail can increase pedestrian activity and promote “urban vitality” but can also increase security risks. Small retail stores that promote Washington products were discussed for inclusion on Capitol Way. It is envisioned that over time the downtown will evolve and expand to more positively encourage pedestrian involvement at the campus edge. Visitors to campus currently have little access to souvenirs to remember their visit to the Capitol Campus. A Washington State gift shop, selling and promoting Washington State products and memorabilia, has been suggested for the Heritage Center.

What Exists Today

The north and east sides of the project are bounded by the City of Olympia. Retail food and restaurant operations exist within one-block proximity with Meconi’s Sandwich Shop, a snack shop at the Hands-On Children’s Museum, a Subway Sandwich shop, Wagner’s European Restaurant (a bakery and lunch establishment), and another small sandwich shop/restaurant. Cafeteria service is provided by the Department of Services for the Blind in nearby state-owned buildings including GA, Capital Court, the Natural Resources Building, the Legislative Building and the Pritchard Building. Other retail businesses within a two-block area are a second-hand children’s clothing boutique, an antique store, and a gift shop at the Hands-On Children’s Museum. The downtown core is within eight to 10 blocks, with a full range of retail businesses. While this is a comfortable walking distance for most state employees on a lunch hour, it is considered less so for out-of-town visitors to the campus. Downtown parking is also considered challenging.

Retail Services on Capitol Way

The history of retail services (especially food service) along Capitol Way at to this site is long and varied. 1063’s history has included supporting food service demand created by Capitol Campus employees and visitors. The Capitol Bar & Grill and a Dairy Queen both operated in the area. There also was another food business at the site of Meconi’s long before the current business located there in the 1980s.

RCW 74.18.220 gives the Department of Services for the Blind (DSB) priority rights to vending facilities for food service (coin-operated machines, stands, snack bar, cafeteria) unless DSB chooses to waive that priority. With over 1,400 employees scheduled for this project, food service is a natural retail consideration. There may be opportunity for more than one establishment amid the entire Executive Office Plaza complex. Discussion has centered on a “bistro” or coffee shop business. Such an establishment would offer a chance for visitors and groups to congregate. Placing such an operation adjacent to the proposed gift shop may strengthen both businesses. Some members of the public want to see retail activity at this site remain open after normal business hours. DSB should be engaged early in the schematic design (all the way through design development) process to help shape the design of food services in a way that will best meet the needs of the blind vendors, public customers and state employee customers. The unique

nature of these buildings (the number of tenants and the building functions) provide an opportunity for the DSB to examine novel approaches to design, cost sharing and meeting customer needs.

Cost of Retail

The fully-serviced lease cost (including principle and interest on bonds) will preclude retail. Retail must be viewed as an amenity related to the building, its tenants, and users and as such it will need to be subsidized. Without such subsidy retail cannot be successful because high lease costs will not be able to be passed on to customers because of its impact on the retail price. Decisions regarding levels of subsidy and rate structures should be a part of the legislative authorization and financing decision making processes.

Adding a food service facility in any of these buildings has implications for the budget, and energy use. It is not the intent of this project to include a full-scale restaurant (even though that was suggested at the public workshops), but even a small bistro or deli type operation may affect these factors. Special costs related to cafeteria equipment, special mechanical/ electrical considerations would need to be defined separate from the project as an added alternate. The cost of separate cafeteria equipment is borne by DSB if a blind vendor is selected to provide food services. In the absence of a blind vendor the cost of tenant improvement build out and equipment generally will run about \$150 to \$200 per gross square foot. Generally, most of that cost would fall on the state rather than the vendor – either directly or through lease credits. Preliminary cost estimates indicate that facilities that require grilling and frying will cost an additional \$200,000 for augmented ventilation and fire suppression systems. Like tenant improvements the cost of augmented ventilation and fire suppression will fall on the state. This cost will also fall on the state for blind vendors as well.

Parking Analysis

The Preferred Alternative anticipates the demolition of the General Administration Parking Garage and the 1063 Building. Removal of surface parking around the GA Building is also envisioned. The total number of stalls lost is 384 as follows:

<u>GA Garage</u>	
30 Min Visitor	5
ADA Metered	2
Assigned	1
FMSB Reserved	1
Metered	70
Motorcycle	5
Open	154
GA Garage Total	238

<u>1063 Building</u>	
Open	24
1063 Building Total	24

<u>GA Surface Parking</u>	
30 Minute Visitor	7
ADA	12
Assigned	74
Carpool/Vanpool	5

Emergency Response	5
Loading/Unloading	1
Motorcycle	3
Open	1
Services	14
GA Surface Total	<u>122</u>
Grand Total	384

In summary by type, the following parking stalls will be lost:

<u>Total Parking Lost By Type</u>	
30 Min Visitor	12
ADA Metered	2
ADA	12
Assigned	75
Carpool/Vanpool	5
Emergency Response	5
FMSB Reserved	1
Loading/Unloading	1
Metered	70
Motorcycle	8
Open	179
Services	<u>14</u>
Total	384

According to Olympia Municipal Code Section 18.38.100 – Vehicular and bicycle parking standards — parking is based on the gross square feet of building area (unless otherwise noted in Section 18.38.160). The Capitol Campus is located within the “Downtown District” (Figure 38-2). Based Section 18.38.100, the following is the calculation of the required parking, according to the gross square feet of building proposed:

Standard

- Offices, Government – parking spaces standard is three and a half (3.5) spaces per one thousand (1,000) square feet. Bicycle parking standard is one per 15 auto stalls with a minimum of two.
- Libraries and Museums – parking spaces standard is one space per 300 square feet of public floor area. Bicycle parking standard is one per 20 auto stalls with a minimum of 2.
- Warehouse Storage – for warehouse storage over 20,000 square feet the standard is 18 spaces plus 0.50 for each additional 1,000 square feet beyond 20,000. Bicycle parking standard is 1 per 40 auto stalls with a minimum of one.

Allocated Square Feet

Offices, Government

- Executive Office Building – 120,555 gross square feet
- General Office Building – 243,499 gross square feet
- Heritage Center Building (office portion, based on allocation) – 80,200 gross square feet
- Total Offices, Government is 444,254
- Libraries and Museums (including the Archives) – 143,100 gross square feet

Calculation of Code-Required Parking

- Offices, Government – $444 \times 3.5 = 1,554$ auto stalls. Bicycle stalls equals 100.
- Archives, Libraries and Museums – $143,100 \text{ divided by } 300 = 477$ auto stalls. Bicycle stalls = 23.

The standard application of the municipal code for project would equal 2,031 auto stalls and 123 bicycle stalls.

However, because the Capitol Campus is located in the downtown zone, a reduction of 10% is required (203 stalls). Accordingly, the total required parking is 1,828 parking stalls.

The authorizing proviso of the project (Section 152, Capital Budget 2005) states that *“the project will also include sufficient parking to provide a significant net increase in parking spaces beyond what is required for the new office space.”*

The challenge is to balance the identified need with the amount of parking that can be accommodated on the proposed site.

Parking facilities on Capitol Campus are generally divided between “zoned” and “assigned” parking. There are 3,533 rentable zoned stalls for employees, 559 employee assigned stalls, and 664 visitor stalls, and the remainder is reserved for agency vehicles, disabled access and service and vendor vehicles.

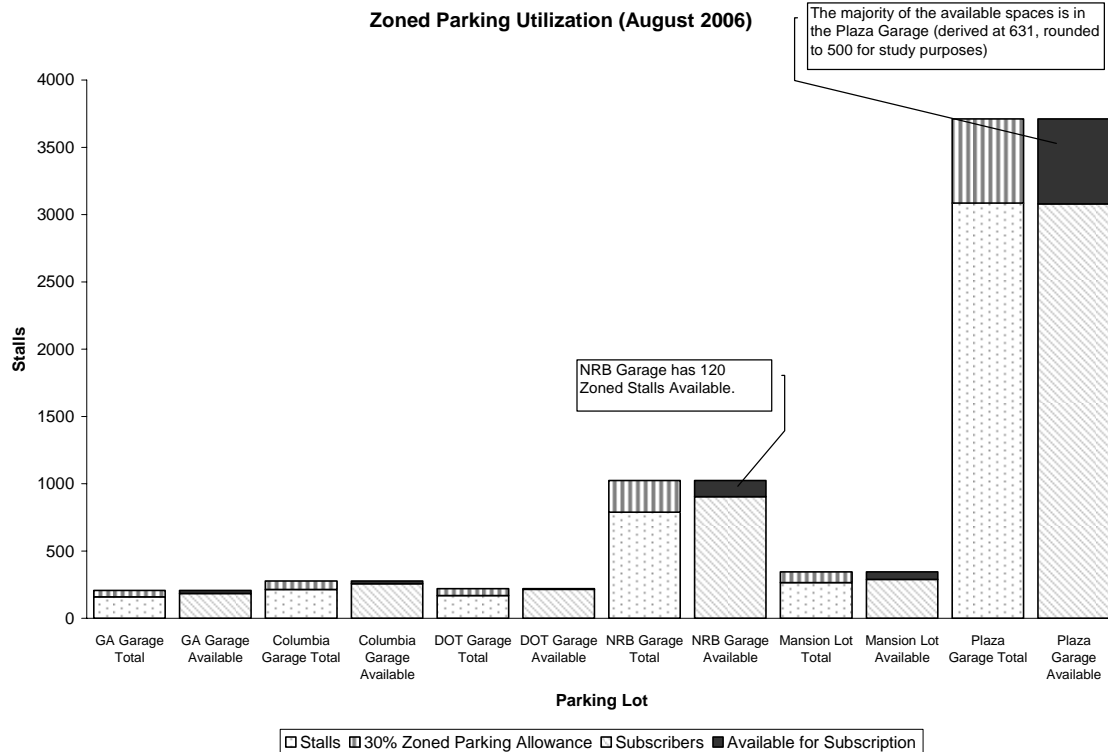
Parking garages provide most of the zoned parking space for employees. Of the 3,533 zoned spaces, 3,306 (94%) are in parking structures (versus surface lots). The Plaza Garage provides 63% of the overall capacity of zoned parking.

The majority of the surface lots on the West Campus, with the exception of the Mansion Lot, are assigned to individual users. The Mansion Lot has 227 zoned spaces. Surface lots with assigned stalls are maintained at 100% occupancy with waiting lists in all cases.

The following charts provide a picture of the current situation in terms of utilization, vacancy rates, and “overbooking” rates.

Figure 1 Legend

Facility Name	Short Name
GA Garage (Yellow Zone)	GY
GA Garage (Red Zone)	GR
Columbia Garage	CG
DOT Garage	DOT
NRB Garage	NRB
Mansion Lot	ML
Plaza Garage	PG



Overbooking rates of 115% to 130% in zoned parking areas are generally manageable. Smaller areas (for example, the yellow zone of the GA Garage) must be managed more carefully as subscribers reach above 130%. There is more flexibility in larger facilities like the Columbia and NRB garages. It should be noted that the overbooking rate could be increased with the development of more efficiencies, such as a reduction in the number of agency-assigned vehicles.

It would be difficult to construct the total number of required parking stalls on the project site without impacting a number of other important elements, from cost to aesthetics. Therefore, to meet code requirements and the proviso's requirement for "significant net increase," *proposes that parking throughout the entire campus be utilized to accommodate the project's parking requirements*, reducing the volume of parking that would need to be constructed on the project site

Using this framework, the project parking requirements can be met by taking advantage of a 20%-30% average vacancy rate on campus, use of aggressive alternative transportation strategies to reduce demand, and the development of specific supporting strategies.

It is proposed that the parking requirements for this project be met as follows:

Replace the GA Garage's displaced stalls	384
Add a 30% increase to 384	<u>+119</u>
	503 stalls on project site
Utilize 286 Columbia Street Garage stalls ⁵	286
Add vacancies at East Campus garages	<u>+500</u>
	786 existing stalls

:

The remaining 539 parking stalls required (30% of total requirement) could be rendered unnecessary through aggressive transportation demand management (TDM) strategies such as are already in place on Campus. Experience has shown that aggressive TDM strategies that include financial incentives can reduce demand by up to 25%.

	503 new construction
	786 existing stalls
	<u>+539</u> TDM
Total	1,828

If TDM measures do not yield the 539 stalls, the total is 1,289, which is short of the total requirement calculated in Section 5.13.2 above, but still within the ratio of employees to parking stalls elsewhere on state campus properties, as discussed below.

Comparing the capacity ratios of Capitol Campus, the Lacey Center and the Tumwater Satellite Campus provides some perspective. For example, there are approximately 5,900 employees on the Capitol Campus, and 4,107 registered parkers -- the actual eligible parking population. There are 3,355 parking spaces on Capitol Campus (East and West Campuses including the Columbia Street Garage). Comparing the situation to other large state employment centers such as Lacey and Tumwater shows that the ration of parking capacity ratio to registered parkers would slightly higher at the Executive Office Plaza-Heritage Center using the option described above.

Figure 5 Capacity Ratios

<i>Campus</i>	<i># of employees</i>	<i># of registered parkers</i>	<i># of parking spaces</i>	<i>Capacity Ratio</i>
Capitol Campus	5,900	4,107 ⁶	3,533	0.86

⁵ Forty of these stalls are leased to state agencies occupying the RAAD Building until 2010

(current)		Fee based eligibility		
Lacey Center	1,865	Registration All eligible No parking fee	1,660	0.89
Tumwater Satellite Campus	2,765	No registration All eligible No parking fee	2,230	0.81
Executive Office Plaza- Heritage Center	1,409 (estimated)	Registration Fee based eligibility	1,286 ⁷	0.91

Thus, under Option 1, with the new project limited to 1,286 available parking stalls for an estimated 1,1409 employees, the capacity ratio would be 0.91. This is higher than at the state's other campuses. If one assumes that there will be a similar ratio of employees to **eligible** parkers at the project site as on the Capitol Campus as a whole, the capacity ratio would be even higher.

The above calculations require greater utilization of the East Campus Plaza underground parking garage. Enhancements to that facility would make it feel safer, closer, more navigable, and generally more attractive to users.

The following supporting strategies are proposed as part of parking reduction strategy.

(a) Paint and signage improvements in the Plaza Garage

Individuals are reluctant to use the Plaza Garage because it is dark and parking is hard to find.

(b) Elevators in Plaza Garage

In order to enhance access and spread demand to underutilized areas of the Plaza Garage, elevators should replace the stair towers. Installing elevators at appropriate locations would provide access to all floors as well as the surface.

(c) Enhanced Security

In order to encourage more parkers to utilize the Plaza Garage, it will be important to enhance the security of the facility with additional cameras and improved lighting.

⁶ Using registered parkers as baseline (there are 5,900 employees on the Capitol Campus; there are only 4,107 registered parkers)

⁷ Includes Visitor Parking

Figure 6 Capitol Campus Parking Areas

Facility Name	Site Plan Symbol	Total Parking Stalls	Employee Stalls	Agency Reserved	Visitor and/or ADA	Service/ Vendor/ Other
Parking Garages						
Columbia Garage	CG	255	227	28		
GA Garage	GR, GY	156	149	7		
Plaza Garage	PG	2,126	1,962	164		
OB2 Garage	OB2	73	13	46	4	10
DOT Garage	DOT	326	207	109	4	8
NRB Garage	NRB	958	835	60		
Total Garage		3894	3393	414	8	18
Surface Lots						
Cherberg North Lot	CN	13	11	1	1	
Cherberg/O'Brien Lot	CO	60	51		4	5
Flag Circle Lot	FC	81	76		4	1
GA Reserved	GL	118	32	68	13	5
IBM Lot	IBM	24	2	22		
Insurance (14th & Cherry)	IN	39	37	2		
Legislative Lot (south side)	LG	101	99			2
Mansion Lot	ML	310	298	10	2	
Modular Buildings Lot	MB	29	26		3	
Newhouse (South of Bldg + gravel lot)	NL	64	49	14	1	
Pritchard Lot	PR	24	23		1	
SPI/Old Capitol (Wash St)	SPI	22	20		2	
Temple of Justice (Cherry Lane, 13th)	TJ	118	103	10	4	1
Water Street	WS	43	42		1	
Total Agency/Employee Surface		1046	869	127	36	14
Visitor Lots						
GA Visitor	VG	76		2	74	
Visitor Info Center	VIC	86	69	5	12	
N. & S. Diagonal (two)	VN, VS	100		2	96	2
Jefferson Visitor Lot	VJ	144		14	130	
E. Satellite Visitor	SV	56			56	
DOT Lot	VT	48	1	9	35	3
NRB (Visitor Level)	VR	190		2	188	
Total Visitor		700	70	34	591	5

D. Alternative Parking Strategies Available

The following alternatives are available currently

(a) Carpool/Vanpool

Carpools consist of 2 to 6 people and vanpool of 7 to 15 people—traveling together for a commute trip that results in the reduction of at least one motor vehicle commute trip. The state actively encourages employees to rideshare and some agencies offer financial incentives for ridesharing. There is no parking fee charged at Capitol Campus parking areas for registered carpools or vanpools (WAC 236-12-295). Carpools and rideshare parkers are allowed to have one authorized vehicle parked in a designated parking stall at any given time.

(b) Public Transit/STARPass

The State Agency Rider (STAR) Pass is provided through a partnership between the state and Intercity Transit. State employees assigned to a worksite in Thurston County may ride for **free** on any Intercity Transit route, including the express service between Tacoma and Olympia. Passes are pre-paid by the state.

(c) Telework/Alternative Schedules

Executive Order 01-03 encourages agencies and employees to telework and utilize alternative work schedules. Basically teleworking allows the employee to work either at home or a satellite location at least once every couple of weeks. Alternative work schedules can be either flexible hours which allow varying times for the employee to arrive and/or depart from work. Compressed work week allows a full time employee to eliminate at least one work day every two weeks by working longer hours during the remaining days, resulting in fewer commute trips.

(d) Campus-Downtown Shuttle-DASH

Intercity Transit operates a “Capitol Campus-Downtown Shuttle”, from the Capitol Campus through Downtown Olympia to the Farmers Market. The service operates every 12 minutes, 6:30 a.m. to 6:15 p.m. Buses run from the parking lot at Jefferson and Wheeler, through the Capitol Campus, and through Downtown Olympia to the Farmers Market. The route is slightly modified for Saturday service.

(d) Shared Zoned Parking

This system allows more employees to park within an area because there are always more employees who do not come to the complex for a variety of reasons--or are utilizing preferential parking for carpools/vanpools. Rather than an assigned space for each individual, the parking is open to all registered employees with no assigned spaces.

(e) Reduction of agency-assigned vehicles

One of the elements that strains parking availability in certain locations is the number of state agency vehicles that have been assigned parking stalls. Individual agencies maintain fleets of vehicles or long term lease large numbers of vehicles from the State Motor Pool. Perhaps the demonstration program being operated by State Motor Pool for certain elements in GA could be replicated by other agencies. This pilot program utilizes a centralized reservation system to make maximum use of state agency vehicles assigned to those programs. This would reduce the need of agencies to have their own vehicles

or assigned vehicles and maximize the sharing of resources. In turn, this would reduce the number of state-agency vehicles assigned to parking stalls.

4. SITE ANALYSIS

Site Evaluation

A. Site Context and Character

The project site is a two-block area bordered by Union Street and neighboring apartments to the North; Columbia Street and Capitol Way to the East; the West Campus lawn to the south and the bluff overlooking Capitol Lake and the Olympic Mountains to the West. Columbia Street bisects the site from north to south. This site is identified as an Opportunity Site for redevelopment (Site Number 1) within the current Draft Master Plan for the Capitol of the State of Washington. Opportunity sites within the Capitol Campus represent areas for future expansion of state government activities.

Located at the interface between a commercial/residential zone to the north and east and the West Capitol Campus to the south, this site has the potential to be a new gateway or entry to the Capitol Campus.

Significant Views from the site include the view south towards the West Campus lawn and the Legislative Building, west over the bluff to Capitol Lake and the Olympic Mountains, and east to Mount Rainier.



This site was the only site identified, studied and considered during the pre-design process for the Executive Office Plaza/Heritage Center Pre-design.

Existing Site Components

This 4.4 acre site is currently occupied by a five-story General Administration (GA) Building with surface parking on the north and west side, the GA parking garage, and a two-story office/retail building. The two properties that make up the site are owned by the State of Washington.

- ***Current GA Building and associated parking lot.***

The existing 282,000 square-foot GA Building was completed in 1956 and sits four floors above grade on the southern side that faces the Capitol Campus and five floors above grade on the north side. A paved parking lot occupies the northern half of the site and is retained by a concrete wall along the north edge adjacent to a publicly accessible alley. A narrow parking area and grass panel is located west of the GA Building running parallel to the bluff. The site has a clear view of the Legislative Building and the potential for expansive views of Capitol Lake.



Existing GA Building as viewed from the West Campus lawn.

- ***1063 Building & GA Parking Garage***

This property is located east of Columbia Avenue, across from the GA Building. The site is bound by Union Street to the North, 11th Avenue to the South, Capitol Way to the East and Columbia Street to the West. The site is currently occupied by a parking garage on the west side and office/retail on the east side. The northeast corner of the site defines the edge of the Capitol Campus from the surrounding Olympia neighborhood. This corner has the opportunity to become an important gateway or entry to the Capitol Campus. This site also offers views to the Legislative Building.



Existing Parking Garage & Building 1063 as viewed from the West Campus Lawn.

- *The West Hillside/Bluff overlooking Capitol Lake.*

The bluff overlooking Capitol Lake just west of the GA Building site is generally populated by Big Leaf Maples and mixed under-story plants. It is stabilized by a shoring system that was installed around 1986. (See “Physical Site Conditions” for more information on slope condition.) A linear lawn area and a large Sequoia tree sit atop the bluff. This area is used by state workers and visitors to enjoy the view of Capitol Lake and relax in the narrow open lawn area. Views of the Legislative Building from this site are currently blocked by the Capitol Conservatory.

B. Significant Natural and Built Features

- *West Campus Lawn & Heritage Trees.*

Directly south of the project site lies the West Campus Lawn. Designed by the Olmsted Brothers in 1928, this open green space dominates the West Campus with its organized pattern of streets, sidewalks, and landscape spaces. Two “Heritage trees,” an English Oak (*Quercus Robur*) and an American White Elm (*Ulmus Americana*), the Story Pole, and the World War II Memorial reside in the lawn area along 11th Avenue. The American white elm grew from a cutting derived from the historic Elm that General George Washington stood under when first taking command of the Continental Army in Cambridge, Massachusetts. The English Oak is the largest of its species in Washington State. The Story Pole is on the south side of the General Administration building across 11th Avenue. The Story Pole was carved by William Shelton and other carvers of the Snohomish Indian Tribe, Tulalip. It was presented to the State in 1940 by the Washington Congress of Parent-Teachers, sponsored by Snohomish County Parent-Teachers Association. It was purchased through contributions of school children. The World War II Memorial was dedicated in 1999. The design features a star-like cluster of five, 14-foot high bronze blades engraved with the names of nearly 6,000 Washington residents who lost their lives in WWII.

- *Adjacent Olympia Neighborhood.*

The neighborhood bordering the north and east side of the project site is zoned Downtown Business (DB) and is made up of a mix of commercial and residential land use. Columbia Street, which bisects the project site, is a direct route to downtown Olympia.

- *Capitol Lake & Heritage Park.* The west bluff on the project site overlooks Capitol Lake and Heritage Park. Capitol Lake is a 260-acre reservoir. It was created in 1951 when the state constructed an earthen dam, 80-foot concrete spillway and bridge along 5th Avenue in Olympia. The dam blocked the tidal flow of Budd Inlet and changed the mudflats of the Deschutes River estuary into a lake. The lake was created to serve as a reflecting pool for the Capitol buildings, to improve the link between east and west Olympia, and for recreation purposes. Although the lake is no longer open for swimming, the lake and adjacent Heritage Park attract visitors and residents of Olympia year round. The park is considered the northern extension of the West Capitol Campus, connecting the campus to the city of Olympia. Currently, the lake and park can only be accessed from Capitol Campus via a gravel switchback path that begins at the Law Enforcement Memorial directly north of the Temple of Justice.

C. Physical Site Conditions

- *Topography*

A large retaining/shoring system and steep slope borders the site on the west that continues down into Heritage Park and Capitol Lake. The northern half of the West Campus experiences a 30 foot elevation change that slopes down from the Winged Victory and Tivoli Fountain north to Union Street. Therefore, the project site generally slopes northerly with a topographic relief of roughly 13 feet from 11th Avenue to Union Street.

- *Geotechnical/Soils*

Soil conditions on the project site are not anticipated to present an insurmountable constraint during construction of the new facility. However, the steep slope and retaining wall to the west of the project are known to exhibit symptoms of instability. The cause of this condition is known to be due to fill soils being placed within the existing gully that crossed the campus. The fill was not placed in a dense condition and settlement and slumping has been an ongoing problem within the sloped zone.

Any areas of unstable soils will be evaluated and addressed as part of the regular design process. It is expected that unstable or unsuitable soils will be excavated and replaced with suitable materials or excavated and compacted in place to provide a stable condition. A detailed geotechnical analysis will be required to establish final design criteria for retaining walls and building foundations. As part of the soil stabilization, exposed soils will be vegetated in a manner to quickly protect and stabilize slopes.

- *Water*

Water service within the campus is currently provided by a city water main circulating throughout the campus. Portions of the water main is owned and operated by State of Washington. According to campus utility maps, a 12-inch diameter cast iron water main is located on the east side of Capitol Way adjacent to the site. A water main of 6-inch diameter cast iron pipe is located within Union Street and Columbia Street. A water main is also located within 11th Avenue and is known to be of 10-inch diameter ductile iron and is also designated as "State Owned." Fire sprinkler and domestic service for the existing GA Building is provided from Columbia Street.

Fire hydrants are currently located at the following locations:

- On 11th Avenue at the intersections of Water Street and Columbia Street and Capitol Way.
- Northeast corner of the intersection of Union Street and Capitol Way
- Mid-block on Columbia fronting the existing GA Building

New domestic service will be provided for the project. New fire service will be provided at each of the new buildings. It is expected that the existing 6-inch water main located on Columbia Street between Union Street and 11th Avenue will be replaced with a larger size pipe to improve fire flow conditions.

- *Storm Drainage*

The project site contains and is surrounded by several storm drainage systems of varying sizes and pipe types. Some of these systems, most likely on the west and north sides of the site, will need to be relocated and/or improved to accommodate the proposed development. Additional systems will be constructed to collect drainage from new buildings, concrete plazas and landscape areas.

Storm drainage for the campus is regulated by the City of Olympia Storm Water Manual dated January 2005. This manual further references the Washington State Department of Ecology Standards with the use of the Western Washington Hydrologic Model for storm water detention and infiltration. The regulation requires that quantity control be provided for pervious surfaces converted to impervious by the development. Detention calculations have not yet been performed. However, it is expected that detention will be required. Based on the physical conditions of the site and proposed improvements, detention facilities will likely be located underground either in a concrete vault or large diameter pipe systems to meet the detention requirements for the project. The detention system would collect drainage from the proposed improvements and then be released at a pre-determined rate to the existing storm system at the north and low end of the project site.

The storm water standards require that runoff from pollution generating surfaces be treated before being discharged from the project site. Treatment for paved areas subject to vehicular traffic will be treated with the use of underground treatment systems. Roof runoff is considered “clean” and does not require treatment before discharge to the city storm system.

- *Sanitary Sewer*

Sanitary sewer service is provided by City of Olympia. Sewer service for the existing GA Building is provided on the east side of the building by a 4-inch diameter cast iron pipe extending to a manhole located at the intersection of Union Street and Columbia Street. A 6-inch diameter service is located within the alley on the east side of the parking garage. This service extends north and east to an existing 15-inch diameter main within Capitol Way. An existing 8-inch diameter sewer main is located along the west side of the existing GA Building. This main continues northerly and westerly through the existing parking lot where it turns north within Columbia Street.

The existing sewer located west of the site may require relocation to accommodate the proposed site and building improvements. New service for the proposed buildings will be provided by extending new services from the existing mains located within Columbia Street or Union Street or Capitol Way. Existing sewer services may be able to be used if it is confirmed that the services are in adequate condition, size and slope for the proposed use.

- *Hazardous Materials*

A hazardous materials survey has yet to be completed for the site. Because of the age of GA, it is likely that the demolition of GA will result in the exposure of asbestos and lead from the exterior of the building. These contaminants will make their way to the surface soils. Soils in the landscape areas around the existing building will be abated by removing the contaminated soil and filling the excavated areas with import soil. A hazardous materials survey and report should be completed to confirm the presence of these materials. Then a recommendation can be made for proper abatement of the hazardous materials.

- *Archaeological and Historical Assets*

No archaeological assessment of the site has been conducted. The Washington Office of Archaeology and Historic Preservation and concerned tribes or similar agencies will be contacted to review the project site for archaeological and historical assets during the next design phase.

D. Regulatory Issues

- *Land Use*

The project site is owned and under the jurisdiction of the State of Washington. The site lies within a Mixed Use Zone. Land use north and east of the site is Commercial/Residential.

- *Shoreline Master Program for the Thurston Area*

A 200-foot wetland buffer established by Thurston County lies along Capitol Lake. Appropriate steps will be taken to obtain any required shoreline permits for the project.

E. Proposed Design

Building Components

The project will include three building components: 1) General Office Building, 2) Executive Office Building, and 3) Heritage Center which includes the State Library and Archives. All above ground structures on the West Capitol Campus are restricted to four floors above grade (approximately 60 feet in height) in accordance with the current Master Plan for the Capitol of the State of Washington. Parking for approximately 500 cars can be accommodated in an underground structure. (See Section 3: Program Analysis for total gross area of the building.)

- *General Office Building*

The proposed building is configured as an “L-shape” with the “short” side of the “L” aligned with Capitol Way and the “long” side aligned with Union Avenue. The building will bridge over what is currently Columbia Street. A glass atrium runs the length of the building and provides access points at grade.

- *Heritage Center*

The Heritage Center will be built entirely below grade. The only piece of the Heritage Center that will appear above grade is the entrance pavilion in the Heritage Plaza. (Please see F. Landscape Components for a full description of the Heritage Plaza.)

The Heritage Center program includes the State Library, Archives, and Washington State Capitol Museum. Significant spaces for these functions call for no exposure to natural light. Therefore, the State Library and Archives will be located in three floors below grade. This portion of the building will be built into the existing hillside. Building into the hillside will help stabilize the

slope and provide universal access from the Capitol Campus down to Heritage Park and Capitol Lake.

- *Executive Office Building*

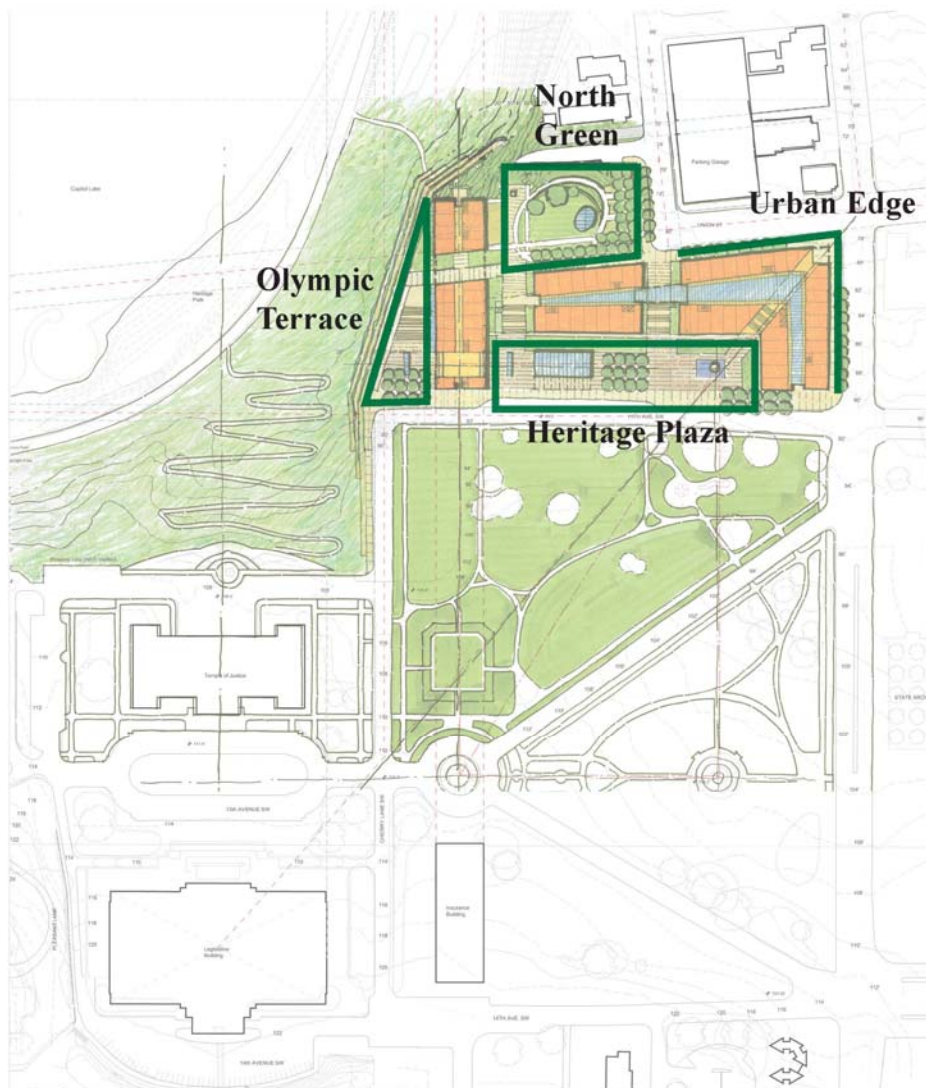
The Executive Office Building will be located on the west side of the project site with views to Capitol Lake and Heritage Park. This building is oriented east/west. A two-story opening in the building allows views through the building to Capitol Lake and the Olympic Mountains beyond.

- *Parking*

503 parking stalls will be accommodated in 3 floors of below grade parking under the north end of the project site. A green space and plaza will be located on top of the parking structure. (Please see F. Landscape Components for a full description of the North Green). The parking garage will be accessed from a driveway on the north edge of the site at the north east corner.

F. Landscape Components

The character and design of the new landscape open spaces will respond to the needs of the structures and its users while complementing the character of the existing open spaces around Capitol Campus. The four spaces described below will offer visitors and employees a variety of outdoor areas to accommodate everyday activities and larger events.



- *Urban Edge*

The northeast corner of the project site (corner of Union Street and Capital Way) was identified as a “transition zone/gateway” in the current Master Plan for the Capitol of the State of Washington. As well as serving as an entry to the Capitol Campus, this edge will also respond to the urban context of the adjacent Olympia neighborhood. A paved plaza will be created at the corner of Union Street and Capitol Way. The streetscape along Union Street and Capitol Way will include a 20 foot wide sidewalk with space for street trees and site furnishings. Street-level retail and other pedestrian oriented uses will be proposed for inclusion (depending on the result of the financial policy and DSB decisions) in the building along Capitol Way and Union Street to increase urban vitality on these street edges.

- *Heritage Plaza*

The configuration of the General Office Building and the Executive Office Building create a framed open space called the Heritage Plaza. A green swath of planting will define the edges of the plaza against the buildings while the paved areas of the plaza will complement the adjacent Olmsted lawn. The Heritage Plaza will face the Olmsted’s West Campus lawn and open up the new project site to the rest of the Capitol Campus. Within the Plaza a grove of trees will be planted in a formal grid pattern to counter the more informal tree pattern on the Olmsted lawn. The grid pattern also mimics the agricultural history of the state - taking part in the cultural history that the proposed Heritage Center will represent. The entrance pavilion to the Heritage Center will also be located in the Plaza. A bus drop off area will be located at the Heritage Plaza along 11th Avenue.

- *North Green*

The North Green will be located just north of the General Office Building on top of the below grade parking structure. This green space will serve as both a transitional amenity and buffer for the campus and the adjacent neighborhood. A series of pedestrian paths will provide access points from Columbia Street to the North Green and the rest of the Capitol Campus. A sculptural pavilion will serve as a focal point in the green space. Street trees along Columbia Street will serve as a porous vertical edge to the North Green on the east. The north edge of the green will be a vegetated berm to buffer the space for the neighborhoods.

- *Olympic Terrace*

The Olympic Terrace will be created on the roof of the below grade Heritage Center west of the Elected Office Building. The terrace will be a public open space with expansive views to Capitol Lake, Heritage Park, and the Olympic Mountains beyond. The space will include an outdoor amphitheatre that can be used for public events. This space can be accessed from the east through the two-story opening in the Executive Office Building and from the south promenade along the bluff. A ramp and stair system will be created to provide ADA access through the space and to the amphitheatre.

G. Open Space and Planting

- *Planting*

Plantings for this project will be predominantly drought-resistant native plant species. Careful consideration will be used in choosing plants for on-structure landscape areas. Plant species will also be chosen to complement the existing plant palette on the West Campus.

- *Site Furnishings*

Site furnishings appropriately placed within the landscape may include benches, bicycle racks, trash and recycling receptacles.

- *Irrigation*

All landscaped areas will be irrigated with automatic irrigation systems.

- *Maintenance*

Maintenance of planting areas will minimize use of pesticides and herbicides. Care will be taken to design planting areas to be easily accessible to maintenance crews.

- *Special Consideration*

Portions of the site will be landscaped areas on below grade structures. The following guidelines will be used to develop the design for planting, paving, and other landscape features on structure.

General Guideline Densities for Structural Loads:

Reinforced Concrete:	150 lb/cf
Structural Foam:	5 lb/sf
Soil (saturated):	100-125 lb/cf
Stone:	160-180 lb/cf
Water:	62.4 lb/cf (assume a typical basin depth of 18")
Plant Material:	varies greatly
Groundcover:	2lb/sf
Med. Shrubs:	10 lb/sf
Trees:	500lbs-6,000+ lbs each

- If the structure is post-tensioned it greatly influences sleeving for the mechanical systems.
- Water feature weight should add concrete structure (pool floor, walls, coping, etc.) in with the typical water depth noted above. Typically, the water feature waterproofing will be a secondary system applied over a concrete structure, and concealed with a veneer of tile, stone, brick, metal, etc.
- Note that one may be able to reduce live load requirements for shrub beds. These are not "public gathering areas," and may often be reduced from 100lb/sf live loads to 40 lb/sf. This assumption should be discussed early on with structural and Authorities Having Jurisdiction. Plan on a 30" min. soil depth for shrub areas and 48" depth for small trees. For larger specimen trees, assume a 72" min. soil depth.
- Typically, plants grown on-structure such as this never attain mature sizes. How stunted the material remains varies depending on water, nutrient availability, light intensity and quality, root morphology, planter volume and maintenance, among others. The above numbers should be safe, conservative values. Final loading should be reviewed once the design qualities required of the trees is better defined.

H. Site Access and Circulation

- *Vehicular*

It is recommended that the current access between 11th and Cherry Lane via Water Street be moved to align with Cherry Lane after the relocation of the Capitol Conservatory. The realignment of this road would complete the symmetry of the campus road system around the Olmsted Lawn. It is also recommended that Columbia Street between Union Street and 11th Avenue be closed to all but emergency vehicles. This portion of Columbia Street would become a pedestrian environment – only accessible to emergency vehicles. Bus and vehicular drop-off and loading will occur at Heritage Plaza on 11th Avenue. Vehicles can access the site from 11th Avenue where a drop off and loading area will be located. Vehicles can access the parking garage from Columbia Street at the driveway on the north edge of the site. Loading areas for large trucks will also be accommodated in the below grade parking structure.

- *Pedestrian*

Pedestrians can access the site from the West Campus by crossing 11th Avenue at a crosswalk and entering the Heritage Plaza. Pedestrian access will also be provided from the corner of 11th Avenue and Capitol Way through the General Office Building “A”. The site can also be accessed from the north along Columbia Street and Union Street. From the corner of Union Street and Columbia Street pedestrians access the Heritage Plaza. Pedestrians will also be able to access the site from the southwest by following the promenade along Cherry Lane overlooking the west bluff.

- *Barrier Free and Universal Access*

Access to the building and outdoor gathering spaces will meet ADA requirements for pedestrian circulation. Barrier Free Access to Capitol Lake and Heritage Park from the project site will be provided through elevators in the Heritage center. Universal access to Capitol Lake and Heritage Park through the Heritage Center will be undertaken as a goal during design.

- *Bicycle*

Bicycles can access the site at similar points as pedestrians. Secure bicycle racks will be appropriately located within the complex.

- *Campus Wayfinding*

Appropriate pedestrian signage will be located around the site to direct visitors to each of the buildings and spaces. Vehicular signage will also be added to nearby streets to direct visitors to the parking garage and drop off areas. In addition, texture will be used identify pathways leading to building entrances.

I. Site Art Opportunities

Two locations have been identified as opportunities for public art. The first area is located in the Heritage Plaza and would be placed on axis with the corner entry of the General Office Building and the Capitol Dome. This art location also sits on the “golden rectangle” created by the locations of the Winged Victory sculpture and the Tivoli Fountain. (Please see Urban Design Diagrams in architectural narrative.) The second area is located on the lawn area of the North Green. This location would highlight the north edge of the Capitol Campus and draw visitors’ eyes from the East on Union Street towards the view of Capitol Lake.

5. PROJECT BUDGET ANALYSIS

A. General Project Description

This predesign is for the replacement or renovation of the General Administration Building combined with the development of an office building on the block adjoining Capitol Way and 11th Avenue. The combined development is intended to provide:

1. Executive office space for statewide elected officials,
2. Public access space for the State Library collection and State Archives and exhibit space for historically significant documents from the state archives and collections from the State Capitol Museum and
3. High-density general office space that can adapt to changing State needs.

As this project developed we reviewed the costs associated with the renovation or replacement of the existing General Administration Building. An initial estimate was prepared to determine if it was cost effective to renovate. Those estimates indicated that if we renovated the General Administration Building it would cost almost as much as building new space. Both those approaches would develop a building of the quality and character level of the General Administration Building but not of the quality envisioned in Principle 5, Policy 5.2 of the Master Plan entitled Design at the Capitol Campus. The preferred alternative buildings are developed at the Master Plan level of quality.

The following estimates give costs for the three alternatives.

- Alternate A. The preferred alternative would demolish the General Administrative Building and the buildings on the adjoining block and replace them with a new complex that is build to the West Campus design standards. That new complex is shown and described in this predesign report.
- Alternate B. The second alternative is to renovate the General Administration Building and build a new building on the block east of the General Administration Building. This building would house the Heritage Center and the renovated General Administrative building would House both elected officials and general office needs.
- Alternate C. The third alternative is a limited repair option. Under this option limited repairs to the GA Building and the 1063 Building will be made during the upcoming biennium with follow on repairs over a number of years. No new buildings would be constructed and current tenancies would be maintained in currently owned and leased space. The life cycle cost analysis reflects these assumptions.

B. Outline Specifications

Unifomat Coding Structure Level 2

The following represents the basic construction systems to be used in the preferred alternative for the Executive Office Building, Heritage Center and General Office Building.

A10 Foundations

See Structural Systems (6) of Section 3 Program Analysis of this report.

- Concrete spread footings or augercast piles

A20 Basement Construction

See Structural Systems (6) of Section 3 Program Analysis of this report.

- Slab on grade with under slab drainage system

B10 Superstructure

See Structural Systems (6) of Section 3 Program Analysis of this report.

- Steel framing with metal deck and concrete slabs at the office buildings
- Concrete retaining walls below grade
- Concrete columns and slabs at the parking garage
- Concrete shear walls

B20 Exterior Closure

See Architectural Systems (3) of Section 3 Program Analysis of this report.

- Wilkinson sandstone
- Bronze colored aluminum
- Clear glass

B30 Roofing

See Architectural Systems (3) of Section 3 Program Analysis of this report.

C10 Interior Construction

See Architectural Systems (3) of Section 3 Program Analysis of this report.

C20 Stairways

See Architectural Systems (3) of Section 3 Program Analysis of this report.

C30 Interior Finishes

See Architectural Systems (3) of Section 3 Program Analysis of this report.

D10 Conveying Systems

See Elevators (4) of Section 3 Program Analysis of this report.

D20 Plumbing Systems

See Plumbing Systems (8) of Section 3 Program Analysis of this report.

D30 HVAC Systems

See Mechanical Systems (7) of Section 3 Program Analysis of this report.

- Mechanical rooms located below grade with fresh air intakes located within the landscaping.
- Connect to an expanded central Campus plant chiller.

D40 Fire Projection Systems

See Plumbing Systems (7) of Section 3 Program Analysis of this report.

D50 Electrical Systems

See Electrical Systems (9) of Section 3 Program Analysis of this report.

E10 Equipment

See Electrical Systems (9) of Section 3 Program Analysis of this report.

E20 Furnishings

New furnishings to be provided outside of the construction contract.

F10 Special Construction

F20 Selective Demolition

Abatement, demolition, and deconstruction as required for the project is included.

G10 Site Preparation

See Section 4 of this report.

G20 Site Improvements

See Section 4 of this report.

G30 Site Mechanical Utilities

See Mechanical Systems (7) of Section 3 Program Analysis of this report.

G40 Site Electrical Utilities

See Electrical Systems (9) of Section 3 Program Analysis of this report.

C. Detailed Construction Cost Estimates

Detailed construction cost estimates totals are found in the Appendix Section 9.6.

Alternative A – The preferred alternative. The total project cost for this alternative is \$387.3 million and entail 589,975 GSF of office and Heritage Center space plus 188,856 GSF of parking for 503 cars.

Alternative B – Renovate or Rebuild GA and build a new Heritage Center on the 1063 Building site West of GA. This alternative also includes constructing parking. The total project cost would be \$264.2 million and entail 437,499 GSF plus 188,856 GSF of parking for 503 cars.

Alternative C- Limited repair option. No new construction. This alternative entails a limited repair of existing 282,000 GSF General Administration Building and the 54,500 GSF 1063 Building. The first phase of that construction will have a total project cost of \$40.5 million.

D. Total Project Costs (Construction, Design & Project Management)

The following is a summary of the total project costs as shown on the OFM Form 100's contained in Appendix 9.6 for each of these alternatives. The total project costs include design and construction of capital improvements. The total project cost for the preferred Alternative A is \$387.3 million. This is a future cost (allowing for future project cost inflation). In current dollars Alternative A would cost \$321.7 million. Total project costs exclude the costs of ongoing operations (e.g. utilities and custodial services), financing costs (e.g. the cost of issuance of a Certificate of Participation), and leasing costs (e.g., temporary housing during construction. These operational, financing and leasing costs are included on the OFM Form C3 and in the Life Cycle Costs section below.

Summary of Alternative Total Project Costs			
	Alternative A	Alternative B	Alternative C
	Total Executive Office Plaza/ Heritage Center	Total Renovate GA & Heritage Center at 1063 Site	Ongoing Repair Option - 1st Upgrade
Project Cost			
Consultant Services	\$24,236,000	\$18,581,000	\$2,814,000
Construction	\$340,878,000	\$229,455,000	\$36,124,000
Equipment	\$12,488,000	\$9,095,000	\$0
Artwork	\$1,021,000	\$666,000	\$139,000
Other Costs	\$3,360,000	\$2,018,000	\$187,000
GA Project Management	\$4,452,000	\$3,687,800	\$1,094,000
Other Management Costs	\$874,000	\$699,200	\$168,000
Total Project Cost	\$387,309,000	\$264,202,000	\$40,526,000

The square feet, for each of these options, differs. For Alternative A (the preferred alternative) the total square feet of new and replacement office and Heritage Center space (excluding the plazas and parking garage SF) is 589,975 gross square feet, for Alternative B it is 437,499 and for Alternative C the total partially renovated space is 336,500 gross square feet. The project cost per square foot for the office space and Heritage Center (excluding the plazas and parking garage costs) for each option is:

	Per SF Project Cost ¹
Alternative A	\$536
Alternative B	\$504
Alternative C	\$120 (this phase only)

E. Life Cycle Costs

This section summarizes the findings on the OFM Form C3's in Appendix 9.6 and also on a mid-level summary also in Appendix 9.6. There are six categories of expense that make up the life cycle portion of the analysis:

Total Project cost (listed above) amortized over 25-years - including financing and interest costs.

Temporary Housing costs during construction based on prevailing market lease rates plus limited tenant improvements.

Permanent Housing is included in those cases where the alternative does not fully address the program need as addressed in the preferred alternative – this is included so accurate cost comparisons can be made. Permanent housing is based on prevailing market lease rates plus tenant improvements.

Replacement Cost is an estimate of the cost to replace an asset that has a useful life of less than the planning horizon of 50-years. The present worth replacement cost is calculated using the Joint Legislative Audit and Review Committee's (JLARC) Life Cycle Cost Model "residual value" calculation and is based on construction cost only.

Operating Cost (see C3 form Operating Cost detail) include costs such as utilities, custodial, repairs and maintenance, management services and a capital replacement reserve.

¹ Per SF price excludes the parking garage, the plazas and office furniture.

Residual Value related to ongoing operation of the owned buildings beyond the 50-year horizon to the end of building life is included as a “negative cost” (or credit) – the residual value is 90% of the JLARC model depreciated value in order to recognize an imputed cost of disposal.

The following is a comparison of the three alternatives on a cash basis. This demonstrates how much will be expended on the alternatives over a 50-year period.²

	Alternative A - Preferred Alternative - Cash Flow						Total Executive Office Plaza/ Heritage Center
	Heritage Center	Executive Office Building	General Office Building A	General Office Building B	Parking Garage	Plazas	
Life Cycle Costs							
Initial Project Cost - Amortized	\$224,374,075	\$136,370,419	\$168,433,489	\$104,724,727	\$68,093,629	\$37,960,290	\$739,956,629
Temporary Housing	\$4,354,428	\$2,945,642	\$3,346,236	\$2,160,834	\$0	\$0	\$12,807,140
Permanent Housing	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Replacement Cost	\$0	\$0	\$0	\$0	\$0	\$74,936,230	\$74,936,230
Operating Costs	\$253,523,908	\$135,284,346	\$174,497,785	\$98,751,793	\$50,492,476	\$28,539,236	\$741,089,544
Total Life Cycle Cost without Salvage Value	\$482,252,411	\$274,600,407	\$346,277,510	\$205,637,354	\$118,586,105	\$141,435,756	\$1,568,789,543
Residual Value (90% of value recognizing "sales cost")	-\$320,763,350	-\$203,422,059	-\$246,256,171	-\$150,594,173	\$0	-\$76,192,254	-\$997,228,007
Net Recognizing Salvage Value	\$161,489,061	\$71,178,348	\$100,021,339	\$55,043,181	\$118,586,105	\$65,243,502	\$571,561,536

	Alternative B - Building Renovation - Cash Flow			
	General Administration Building Renovation	Heritage Center at 1063 Site	Parking Garage	Total Renovate GA & Heritage Center at 1063 Site
Life Cycle Costs				
Initial Project Cost - Amortized	\$263,199,642	\$182,578,595	\$63,189,657	\$508,967,894
Temporary Housing	\$11,334,319	\$0	\$0	\$11,334,319
Permanent Housing	\$156,137,206	\$0	\$0	\$156,137,206
Replacement Cost	\$0	\$0	\$0	\$0
Operating Costs	\$316,454,610	\$174,497,785	\$50,492,476	\$541,444,871
Total Life Cycle Cost without Salvage Value	\$747,125,777	\$357,076,380	\$113,682,133	\$1,217,884,290
Residual Value (90% of value recognizing "sales cost")	\$0	-\$258,926,677	\$0	-\$258,926,677
Net Recognizing Salvage Value	\$747,125,777	\$98,149,703	\$113,682,133	\$958,957,613

² The bottom line total includes the residual value as a negative cost.

Cash Flow	
Alternative C	
Ongoing Repair Option - 3 Upgrades	
Life Cycle Costs	
Initial Project Cost - Amortized	\$309,894,801
Temporary Housing	\$12,304,022
Permanent Housing	\$184,708,856
Replacement Cost	\$0
Operating Costs	\$322,680,771
Total Life Cycle Cost without Salvage Value	\$829,588,450
Residual Value (90% of value recognizing "sales cost")	\$0
Net Recognizing Salvage Value	\$829,588,450

The following is a summary comparison of the three alternatives on a cash basis over a 50-year period:

Cash Basis Comparison			
	Alternative A	Alternative B	Alternative C
	Total Executive Office Plaza/ Heritage Center	Total Renovate GA & Heritage Center at 1063 Site	Limited Repair Option
Life Cycle Costs			
Initial Project Cost - Amortized	\$739,956,629	\$508,967,894	\$309,894,801
Temporary Housing	\$12,807,140	\$11,334,319	\$12,304,022
Permanent Housing	\$0	\$156,137,206	\$184,708,856
Replacement Cost	\$74,936,230	\$0	\$0
Operating Costs	\$741,089,544	\$541,444,871	\$322,680,771
Residual Value (90% of value recognizing "sales cost")	-	-	
	\$997,228,007	\$258,926,677	\$0
Net Recognizing Salvage Value	\$571,561,536	\$958,957,613	\$829,588,450

The following is a comparison of the three alternatives on a present worth basis. This adjusts the cash expended for the time value of money, using the Office of the State Treasurer's recommended discount rate of 4.59796% over a 50-year period.

Alternative A - Preferred Alternative - Present Worth							
	Heritage Center	Executive Office Building	General Office Building A	General Office Building B	Parking Garage	Plazas	Total Executive Office Plaza/ Heritage Center
Life Cycle Costs							
Initial Project Cost - Amortized	\$120,422,421	\$66,897,275	\$94,555,401	\$51,373,302	\$34,939,601	\$17,803,056	\$385,991,056
Temporary Housing	\$3,361,964	\$2,274,270	\$2,570,913	\$1,680,982	\$0	\$0	\$9,888,129
Permanent Housing	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Replacement Cost	\$0	\$0	\$0	\$0	\$0	\$14,854,434	\$14,854,434
Operating Costs	\$73,854,074	\$39,409,696	\$50,832,967	\$28,767,395	\$14,577,097	\$8,309,530	\$215,750,759
Total Life Cycle Cost without Salvage Value	\$197,638,459	\$108,581,241	\$147,959,281	\$81,821,679	\$49,516,698	\$40,967,020	\$626,484,378
Residual Value (90% of value recognizing "sales cost")	-\$33,886,289	-\$21,490,044	-\$26,015,153	-\$15,909,167	\$0	-\$7,244,236	-\$104,544,889
Net Recognizing Salvage Value	\$163,752,170	\$87,091,197	\$121,944,128	\$65,912,512	\$49,516,698	\$33,722,784	\$521,939,489

Present Worth				
Alternative B				
	General Administration Building Renovation	Heritage Center at 1063 Site	Parking Garage	Total Renovate GA & Heritage Center at 1063 Site
Life Cycle Costs				
Initial Project Cost - Amortized	\$141,260,251	\$97,990,627	\$35,473,488	\$274,724,366
Temporary Housing	\$8,750,994	\$0	\$0	\$8,750,994
Permanent Housing	\$32,408,185	\$0	\$0	\$32,408,185
Replacement Cost	\$0	\$0	\$0	\$0
Operating Costs	\$92,186,423	\$50,832,967	\$14,577,097	\$157,596,487
Total Life Cycle Cost without Salvage Value	\$274,605,853	\$148,823,594	\$50,050,585	\$473,480,032
Residual Value (90% of value recognizing "sales cost")	\$0	-\$27,353,699	\$0	-\$27,353,699
Net Recognizing Salvage Value	\$274,605,853	\$121,469,895	\$50,050,585	\$446,126,333

Present Worth	
Alternative C	
Ongoing Repair Option - 3 Upgrades	
Life Cycle Costs	
Initial Project Cost - Amortized	\$155,346,153
Temporary Housing	\$11,065,981
Permanent Housing	\$44,594,862
Replacement Cost	\$0
Operating Costs	\$97,528,375
Total Life Cycle Cost without Salvage Value	\$308,535,371
Residual Value (90% of value recognizing "sales cost")	\$0
Net Recognizing Salvage Value	\$308,535,371

The following is a summary comparison of the three alternatives on a present worth basis:

Present Worth Comparison			
	Alternative A	Alternative B	Alternative C
	Total Executive Office Plaza/ Heritage Center	Total Renovate GA & Heritage Center at 1063 Site	Limited Repair Option
Life Cycle Costs			
Initial Project Cost - Amortized	\$385,991,056	\$274,724,366	\$155,346,153
Temporary Housing	\$9,888,129	\$8,750,994	\$11,065,981
Permanent Housing	\$0	\$32,408,185	\$44,594,862
Replacement Cost	\$14,854,434	\$0	\$0
Operating Costs	\$215,750,759	\$157,596,487	\$97,528,375
Residual Value (90% of value recognizing "sales cost")	-\$104,544,889	-\$27,353,699	\$0
Net Recognizing Salvage Value	\$521,939,489	\$446,126,333	\$308,535,371

F. Findings

A comparison of the costs of the alternatives indicates that on a project cost basis the preferred alternative is \$32 per gross square foot (\$18.9 million on 589,975 gsf) more expensive than Alternative B (to renovate the General Administration Building and build the Heritage Center on the 1063 Site). The gain, as shown in the residual value calculation, is that the renovation of GA will result in a 50-year life building whereas the office buildings and Heritage Center are being built to 100-year standards.

The life cycle findings are a bit more mixed. Using a "cash basis comparison" (within the life cycle analysis section) Alternative A is the most effective option; mainly due to recognizing the cash residual value of the proposed 100 year buildings. If the residual value is excluded the least life cycle cost option is Alternative C (the limited repair alternative).

On a present worth basis the most cost effective option is the “Limited Repair” option that includes patching the GA Building over a number of years and continuing to lease space in the community on an ongoing basis.

6. MASTER PLAN AND POLICY COORDINATION

A. State Policy

The Master Plan for the Capitol of the State of Washington – 2006 was approved by the State Capitol Committee on June 15, 2006. This new Master Plan provides a set of principles and policies that guide the decision-making process for major development or redevelopment of state capitol properties such as proposed by this predesign.

B. Master Plan Policy

While all 7 principles and all 24 policies of the Master Plan will have some level of influence on the predesign, there are some that will have significant influence. These are:

- Principle 1, Policy 1.4 Accessibility for All
- Principle 2, Policy 2.1 Location of State Government Functions
- Principle 3, Policy 3.2 Transportation Demand Management
- Principle 3, Policy 3.3 Environmental Stewardship
- Principle 4, Policy 4.1 Preservation of State Capitol Buildings, Grounds and Collections
- Principle 5, Policy 5.1 Capitol Campus Open Space
- Principle 5, Policy 5.2 Design at the Capitol Campus
- Principle 5, Policy 5.4 Universal Access
- Principle 5, Policy 5.5 Commemoratives and Artwork on State Capitol Grounds
- Principle 6, Policy 6.1 High Performance Buildings
- Principle 7, Policy 7.1 Financing Strategies

With regard to Policies 1.4 and 5.4: All aspects of this project are expected to meet national standards for accessibility and to the extent practicable, are expected to comply with the goals of universal access.

With regard to Policy 2.1: The proposed occupants of the new buildings have been carefully measured against four criteria, one of which is the criteria established in this policy. Being located on the edge of the West Campus, the location priority for the project site is Tier 2 West Campus where the functional priority is defined as “functions critical to the effective operation of Tier 1 activities.” Tier 1 is the Legislative Building. Other criteria were also considered including the proviso language, priority to those agencies traditionally on the West Campus and agencies most in need of space according to the 2000 Thurston County Lease and Space Planning Study.

With regard to Policy 3.2: Alternative modes of transportation will be accommodated and encouraged by this project in the form of providing bus loading and unloading zones, by setting aside portions of the parking areas to vanpool and carpool vehicles, by providing secured areas for bicycles, and by providing easy pedestrian pathways from transit stops. Additionally, the State will work with the City of Olympia and local jurisdictions to ensure compliance with Growth Management goals and the goals of the Thurston Regional Transportation Plan.

With regard to Policy 3.3: The facilities constructed under this project will meet or exceed the highest standards of environmental protection, both during and after construction.

With regard to Policy 4.1: The preferred alternative of this predesign calls for the demolition of both the 1063 Building and the GA Building. There are some elements of the GA Building that are of historic significance and those will be saved and incorporated into the new buildings. The most important of these is the mosaic mural in the lobby of the GA Building. Additionally, both buildings will be documented in accordance with guidelines provided by the Secretary of the Interior's Standards for the Treatment of Historic Properties prior to demolition.

With regard to Policy 5.1: One of the primary design goals for the redevelopment of this project site is to bring it more into the fabric of the West Campus. The open spaces between and around the proposed new structures will be designed to extend the character of West Campus. Additionally, the organizing axes used by Wilder and White and the Olmsted Brothers to create the basic layout of West Campus will be extended to the project site and used to control the placement and orientation of the new structures. Existing view corridors will be carefully examined and protected and view opportunities created by the new structures will be maximized.

With regard to Policy 5.2: This policy stresses the importance of aesthetic quality and architectural character of buildings located on the West Campus. It provides guidelines on materials, color, scale, and design which will be carefully followed. It also establishes the goal for new state office buildings to be "the best architectural and technical examples of the era in which they are created". This will be the major design challenge – to create modern structures that are in harmony with the historic character of existing West Campus buildings.

With regard to Policy 5.5: The new buildings proposed by this predesign will include opportunities for major public art both interior and exterior.

With regard to Policy 6.1: The highest standards will be employed to ensure energy efficiency, healthy indoor environment, security of workers in the buildings as well as visitors to the buildings, and the latest technology in communication systems. Sustainable and green building standards will be incorporated. A LEED® rating of "silver" will be the minimum standard to be achieved for these buildings and a rating of "gold" will be the goal wherever possible.

With regard to Policy 7.1: How the construction of these new buildings is financed will be critical to both the prospect of acquiring the necessary funds as well as to achieving the quality envisioned.

C. Master Plan Opportunity Sites

The site proposed for this project is identified in the Master Plan as Opportunity Site #1. See Master Plan map number M-10. The opportunities and constraints described for this site have been taken into consideration and are reflected in the preferred alternative. They are:

- This site is a "gateway" from the city into the Capitol Campus
- Commanding views in all directions
- Steep bank on the west side

The preferred alternative has been conceptually designed to be sensitive to both the "city side" and the "campus side". There are to be no "back sides" to these structures. The structures have been configured to provide a welcoming façade and portal entry at the major intersection of Capitol Way and Union Avenue. The buildings are oriented to take advantage of views both into the campus as well as out from the campus. The steep bank on the west side has been treated as an opportunity not an impediment by creating a building that steps down the hillside thus providing an important and exciting link between the upper campus and Heritage Park below.

D. State Codes, Standards And Guidelines

1. Application of Revised Code of Washington

There are a number of Revised Code of Washington codes applicable to this project. Highlighted here are those with a unique applicability to this project:

RCW 27.04.045 (7) – Duties of state librarian – (7) Maintaining the library on the State Capitol Grounds.
RCW 39.04.330 Use of wood products -- Compliance with chapter 39.35D RCW.
RCW 39.35.050 Life-cycle cost analysis – Guidelines
RCW 43.01.091 Departments to share debt service costs.
RCW 43.01.225 Commute trip reduction -- Parking revenue -- State vehicle parking account.
RCW 43.01.240 State agency parking account -- Parking rental fees -- Employee parking, limitations.
RCW 43.17.050 Office at capital -- Branch offices.
RCW 43.19.455 Purchase of works of art -- Procedure.
RCW 43.19.668 Energy Conservation – Legislative Finding – Declaration
RCW 43.19.682 Energy conservation to be included in landscape objectives.
RCW 43.34.040 Buildings – Erection -- Improvements
RCW 43.34.080 Capitol campus design advisory committee -- Generally.
RCW 43.82.010 Acquisition, Lease, and Disposal of Real Estate for State Agencies – Long-range Planning – Use of Lease as Collateral or Security – Colocation and Consolidation – Studies – Delegation of Functions --- Exemptions
RCW 46.08.172 Parking rental fees -- Establishment.
RCW 79.24.300 Parking facilities authorized -- Rental.
RCW 79.24.530 Department of general administration to design and develop site and buildings -- Approval of capitol committee.
RCW 79.24.710 Properties identified as "state capitol public and historic facilities."
RCW 79.24.720 Dept of General Administration's responsibilities (for public and historic facilities of the state capitol)

2. State Space Standards

The proviso directing this predesign calls for “high density general office space that can adapt to changing state needs.” It states that “(t)he project will maximize interagency sharing of support services such as information technology, printing and mailing, management and storage of supplies, reception areas, and other common functions.” To that end a review of the state space standards and the state’s High Performance Building Design Guidelines provides some guidance on design aspects that ought to be applied to this project.

The detailed State Space Standards Manual governs the allocation of owned and leased office spaces for state agencies. Page 3 of this manual includes the following direction:

The standard space allocation in leased office space averages 215 BOMA Rentable Square Feet (RSF) per person. (Refer to the GA and BOMA Standard Methods for Measuring Floor Area in Office Buildings)

Open Offices

The use of systems furniture in open office plans is strongly encouraged. Open offices require less floor space, allow simpler, more efficient air distribution and maximize the availability of natural light. When staff functions require intermittent privacy, the agency should consider adding smaller conference rooms. Good design practice utilizes partitions with a maximum height of 5'4". This partition height supports over-counter or upper storage units. These taller partitions should be positioned perpendicular to the exterior windows. Lower partitions should be used parallel to windows, allowing natural light to reach interior work stations.

Private Offices

For most programs, 10% of personnel may be housed in private offices.

3. Capitol Campus Design Guidelines

Section C of the General Requirements section of the "General Administration Facilities Design Guidelines and Construction Standards" (March 2003) states:

Consultants are required to comply with all applicable codes and ordinances including Title 51 of the Washington Administrative Code (WAC) and the Americans with Disabilities Act. The Capitol Campus is located within the City of Olympia and the Olympia Building Official is the Authority Having Jurisdiction (AHJ) for most building related issues. The Olympia Fire Marshall is the AHJ for fire protection, alarm and life-safety issues. Electrical Inspection is performed by the City of Olympia.

The proposed projects will need to comply with the Capitol Campus Design Guidelines. The guidelines are broken into design requirements and construction requirement sections. All design and construction projects will need to comply with these guidelines. As noted in the Serviceability section, "Every building on the campus is intended to serve its purpose over a long period. The initial design and construction is a very small fraction of the facility's life cycle cost." The implication is that the construction of buildings in accordance with the guidelines will result in a higher first cost but will result in a building that has a relatively longer service life.

4. High Performance Building Guidelines

The High Performance Building Design Guidelines were developed to guide the development of buildings that the state might one day own. While the Capitol Campus Design Guidelines supersede these, in areas where the Capitol Campus Design Guidelines are silent the High Performance Building (HPB) Design Guidelines will provide direction during building design. Among the HPB guidelines, those most applicable to the proviso provisions are:

- Generic floor layouts
- Limit number of interior columns
- LEED® Silver designation
- Include alternative transportation amenities such as bike lockers, shower facilities, carpooling resources, nearby bus stops, etc.
- Follow site development practices to limit water use and stormwater runoff
- Minimize heat islands

5. Sustainability Guidelines

Sustainable design and construction assures (to the extent possible) building materials, systems and methods promote environmental quality, economic vitality, and social benefits during construction and during the ongoing operation of the buildings. The entire lifecycle of the building is considered (including operation and demolition).

With the passage of Engrossed Substitute Senate Bill 5509 – Related to High Performance Green Building, State facilities will now be designed and built to the LEED® Silver standard. LEED® is a Green Building Rating System developed by the US Green Building Council. The bill has now been transferred into statute at RCW 39.35.D. The pertinent sections in RCW 39.35D reads as follows:

39.35.D 030 (1) All major facility projects of public agencies receiving any funding in a state capital budget, or projects financed through a financing contract as defined in RCW 39.94.020, must be designed, constructed, and certified to at least the LEED® silver standard. This subsection applies to major facility projects that have not entered the design phase prior to the effective date of this section and to the extent appropriate LEED® silver standards exist for that type of building or facility.

Applicable to this Predesign SRG completed the GA Pre-Design/Schematic QA Submittal and associated forms and information after an “eco-charrette.” A LEED® Checklist was prepared (see Section 3). This submittal includes an Environmental Design Considerations form and LEED® Checklist along with the GA LEED® QA Submittal.

7. FACILITY OPERATIONS AND MAINTENANCE

A. Staffing

The Department of General Administration “Buildings and Grounds” staff currently operate (provide custodial and HVAC services) and maintain the buildings on the Capitol Campus. Based on the square feet to be added, the functionality of the buildings and the proposed building’s proposed materials and systems the following is the proposed staffing to operate and maintain the preferred-option buildings once they open (in 2010 dollars, operating costs adjusted on the C3 form for building completion date):

<u>Position</u>	<u>Salaries & Benefits (2010)</u>
Building Manager	\$77,797
Electrician	\$60,421
Carpenter	\$55,671
HVAC Technician	\$62,990
Asset Manager	\$64,363
Custodian 2	\$39,859
Mainten Mech 2	\$56,102
Grnds/Nur Spec 3	\$43,831

Custodial provided by OS1 program staffing (2010 cost estimate \$715,384). Security is assumed to be provided by Washington State Patrol on contract based on project square feet is estimated to be \$305,538 (2010 dollars).

B. Operating Costs

Individual operating starting operating cost rates (2007 base) are based on recent experience with our GA costs (rates charged by our providers) and the units used at the recently completed Edna Goodrich Building in Tumwater.

Service	Edna Goodrich Building (2006 Inflated to 2007)	Existing Capitol Campus Buildings (Inflated to 2007)	BOMA Experience Exchange Report (Seattle Area/Gov'n't Buildings Median/2002 Inflated to 2007)	BOMA Experience Exchange Report (Seattle Area/Private Mid-Sized Bldgs/2002 Inflated to 2007)
Utilities	\$1.14	\$2.13	\$2.02	\$1.44
Custodial	\$1.23	\$2.28	\$1.52	\$1.21
Maintenance	\$1.60	\$2.41	\$1.80	\$1.73
Security	\$0.51	\$0.80	\$1.74	\$0.11
Insurance	\$0.45	\$0.05	\$0.00	\$0.33
Capital Repl. Res.	\$0.60	\$2.00	\$0.00	\$0.00
Management Fees	\$1.68	\$0.40	\$0.94	\$1.24
Total	\$7.20	\$10.07	\$8.02	\$6.06
For Existing Capitol Campus Buildings, Capital Repl. Res is estimate of future capital portion of Capital Project Surcharge				

Based on the historical comparisons and the staffing plan outlined above, the following are the 2007 base rates used in this predesign:

Service	New & Renovated Office Buildings	Existing Office Buildings	Garages	Plazas
Utilities	\$1.50	\$1.71	\$0.43	\$0.03
Custodial	\$1.40	\$1.80	\$0.10	\$0.40
Maintenance	\$1.60	\$2.90	\$0.25	\$0.08
Security	\$0.60	\$0.60	\$0.30	\$0.10
Insurance	\$0.55	\$0.00	\$0.18	\$0.10
Capital Repl. Res.	\$2.00	\$2.00	\$0.65	\$0.35
Management Fees	\$0.70	\$0.70	\$0.02	\$0.01
Total	\$8.35	\$9.71	\$1.93	\$1.07
For Existing Capitol Campus Buildings, Capital Repl. Res is estimate of future capital portion of Capital Project Surcharge				

C. Inflation Assumptions

The forecasted inflation applied to the 2007 base operating and the 2010 new staffing costs are:

Inflation Assumptions	Annual Inflation Rate (%)
Utilities	3.80%
Custodial	3.23%
Maintenance	3.02%
Security	2.90%
Property Taxes	0.00%
Insurance	2.90%
Parking Costs	2.90%
Tenant Improvement Reserve/Payments	4.00%
Capital Replacement Reserve	4.00%
Management Fees	2.99%
Added operational staff cost (not included in categories above)	2.90%
Operational savings from Alternative (can be 0.00%)	0.00%
Building Value	4.00%

D. Co-location/Consolidation Efficiencies

The preferred option will enable co-location and consolidation efficiencies. Potential strategic and operational efficiencies are also possible with a co-located Education Center. Regardless the program, the following efficiencies are possible in the three building complex.

The following are the generally recognized benefits that derive from combining the program needs of separate agencies that would be co-located in the proposed complex. Lack of a common mission or client is not a barrier to the benefits of co-location if activities are generally compatible, or incompatible functions can be conditioned to minimize conflict.

Efficiencies and Benefits of Scale

Benefits of scale means the capability to optimize the usage of resources and facilities through shared usage and the capability to obtain output enhancing systems and facilities that are cost effective only in larger settings.

(a) Cost avoidances through shared use of facilities

Multiple locations mean duplication of equipment, rooms and services. When there are similarities in the activities of the co-locating agencies, opportunities exist for savings through joint use of equipment, reception lobbies, mail rooms, amenities, staff support and maintenance costs as well as consolidation of operations. Activities that are not related still provide opportunities for sharing expensive space: conference facilities, parking lots, multipurpose rooms, rest rooms and food facilities.

(b) Reduction of costs of new construction

By co-locating activities of multiple state agencies on fewer sites, less land should be needed than if agencies were dispersed. Land development costs should be reduced through the economy of sharing major infrastructure elements including roads, water, sewer lines, and storm water treatment facilities.

(c) Improved asset management

The reduction of redundant leases that are costly to manage and maintain frees up the capacity of facility planners and leasing agents to conduct other business.

E. Service Improvement

Implementation of the preferred option will result in several service improvements.

(a) Delivery of services

The current fragmentation and dispersal of agencies in this county and others causes confusion for agency customers (both public and other state entities) and duplication of services, staff and equipment. This dependence on multiple leased space is costly and frequently inefficient. The ability for the public and state service providers to make fewer in-person contacts in the course of conducting business without requiring multiple vehicle trips would significantly enhance service delivery—and the perception of service delivery.

(b) Common clients and coordination of service

If agencies share clients, they can generally be located together. State agencies have multiple customers with competing demands: direct service, education, and enforcement. Some customers are agencies or other branches of government, while others are individuals. There are also customers who need to access services from multiple agencies. The proximity of agencies to one another through co-location creates an opportunity for agencies to improve coordination of service(s).

(c) Service center identity

State service delivery can often be complex and confusing to members of the public with unfamiliar surroundings, similar sounding names, multiple symbols and differing office hours and locations. A concentration of state agencies provides a visible presence of state governments in communities. Co-location enhances the concept of government service center where people perceive they can go to for help for a broad range of services.

F. Threshold Determination

The issue of threshold determination or critical mass involves either the number of employees or the amount of space assembled, which provides the basis for a sound program or business for new facilities or renovating existing ones. Critical mass also involves the opportunity to take advantage of economies of scale in terms of the non-duplication of equipment, supplies space and staff. Critical mass development supports public transit use and the viability of surrounding commercial and retail infrastructure.

G. Support for Local Government

Concentrations of state offices provide an opportunity to support local development goals of a more compact growth pattern around urban centers, in contrast to a dispersed pattern sustained in large measure by the car. Such concentrations also provide visible and physical support for the economic vitality of a community.

H. Common/Shared Facilities

The following are some of the specific benefits that will accrue if specific functions are combined or consolidated based on the proposed design.

Operations Center

The operations center is the nerve center of the buildings, where the surveillance monitors and system, direct digital controls for HVAC and energy management and site lighting are located. The security and access system would be located in the center. Housing these separate but related functions in one area and integrating them provides maximum control with minimum staffing.

The existing campus fiber loop also provides adequate band width and hence high speed data transfer with ample capacity to remotely manage not only the new buildings, but also existing security, HVAC and surveillance cameras around the campus.

Data Center

Currently, the Department of Information Services (DIS) now provides centralized services such as voice mail, internet access and central server management for many campus agencies connected to the campus fiber loop. DIS has the capacity to provide these central services to the new EOP facilities. Just as important, these types of central services do not need constant agency-level information systems program management. As their programs allow, the tenants in the proposed buildings should consider savings that might accrue from the use of the DIS services.

Auditorium and Large Meeting Rooms

The auditorium and conference center being proposed as part of the Heritage Center will benefit the Executive Office Plaza as a whole (either Alternative A or B), as well as other elements on the West Campus. It would supplement the large meeting rooms in the Legislative Building and legislative offices. It would perform a similar function to the current auditorium in the GA Building which is utilized by not only the building tenants, but by other agencies and community groups. In addition, locating the auditorium and large conference rooms in the Heritage Center reduces construction and operation applied to the other building(s).

Large agencies require some access to medium to large training rooms. Medium to large training rooms are expensive to construct and maintain. These rooms are often furnished with tables, chairs, computer hookups for software training, and a screen projector. In addition, these rooms need to be provided with quality temperature control, adequate fresh air, lighting control and soundproofing. However, larger agency specific training rooms may be used only part time 2 to 3 days per week (20% to 30 % of the available time). The provision of centrally located large training rooms that all tenant agencies could share will increase the utilization of these rooms and will mean that fewer need to be constructed.

Print Shop

It would be appropriate to include a “print shop” in the new proposed project, similar to—or larger than—the one that currently is located on the ground floor of the GA Building. It is the most economical means of producing large print jobs. This does not mean that tenant agencies would not have their own “copy center”. However, they need to be centrally located and well designed to ensure that they are environmentally safe.

Food Service Areas

All alternatives anticipate food service being provided by the Department of Services for the Blind. An area will be set aside and built-out with all alternatives. In Alternative A (Heritage Center, Executive Office Building and General Office Building), a food service operation (provided by Department of Services for the Blind) will be centrally and strategically located to serve both state employees and the general public. In Alternative B, (renovate GA and construct a new building) could also use one common food service area. It is anticipated that the current food service operation will continue in Alternative C.

In addition, each floor would generally need an area with a coffee bar and sink, a microwave and a refrigerator to store lunches.

The savings of constructing one common shared food service area instead of one in each building are realized in the lack of duplication for the following items:

- Specialized HVAC and fire suppression systems related to food service operations
- Food service equipment such as cash registers, coolers and freezers,
- Major kitchen appliances including stoves, dishwashers, exhaust hoods,
- Grease traps and floor drains

I. Flexibility

Co-location enhances the ability to change working arrangements and office configurations for a variety of agencies while maintaining the physical integrity of the building, for example through the use of modular work stations and design of multi-purpose lobby and public service areas. Facility management, in addition to experiencing a reduction in costs, will also be improved.

J. High Performance LEED® Silver Building

The entire project is required to achieve at a minimum of a Silver Rating, based on the Leadership in Energy and Environmental Design (LEED®) rating system. This will result in substantial savings in energy and water and sewer usage compared to continuing to use the existing GA Building and 1063 Capitol Way building and Pritchard Building. The new Edna Goodrich Building (208,000 SF shared by the Department of Corrections and the Department of Transportation) is a LEED® Gold Rated Building. This building saved 30% in energy and 40% in water and sewer as compared to a building built to the minimum building code standards of 2004. The projected cost of a high performance LEED® Silver rated building would be comparable and so its utility cost (electricity, natural gas, water and sewer) can be used for projecting costs of either Alternative A or B.

The GA Building was built to an early 1950's building code, whereas the 1063 Capitol Way Building was built before that. A conservative calculation of energy savings resulting from either Alternative A or B would be approximately 50% because the GA Building and 1063 building shells are very inefficient. Both buildings have single glazed aluminum windows with no weather-stripping. They also have no technology such as CO2 Sensors and variable speed fans. The lighting in much of the buildings is 70 FC T-12 lamps with a magnetic ballast. There is no daylight lighting zones or switching.

The new building will have Infrared lavatory fixtures, plumbing fixtures, and waterless urinals. This has resulted in a water and sewer savings of approximately 40% according to information developed by the US Green Building Council.